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ABSTRACT

A course in diagnostic and prescriptive reading instruction was delivered by satellite to a group of educators, and cognitive, affective, and classroom practice changes were observed. Participants were kindergarten through third grade teachers in the Appalachian region. The course consisted of 12 half-hour color videotaped lessons, 12 pretaped audio review segments, laboratory activities, unit tests, related reading materials, and three 45-minute, live, televised seminar programs. Pre- and posttests were developed for each of the 12 units of the course. The participants demonstrated gains in performance on tests keyed to course objectives, and their attitudes toward concepts and principles presented in the course changed slightly in a positive direction. Statistical tables show the results of pre- and posttesting. A questionnaire, a teaching practice inventory, and the course outline are appended. (Author/DS)

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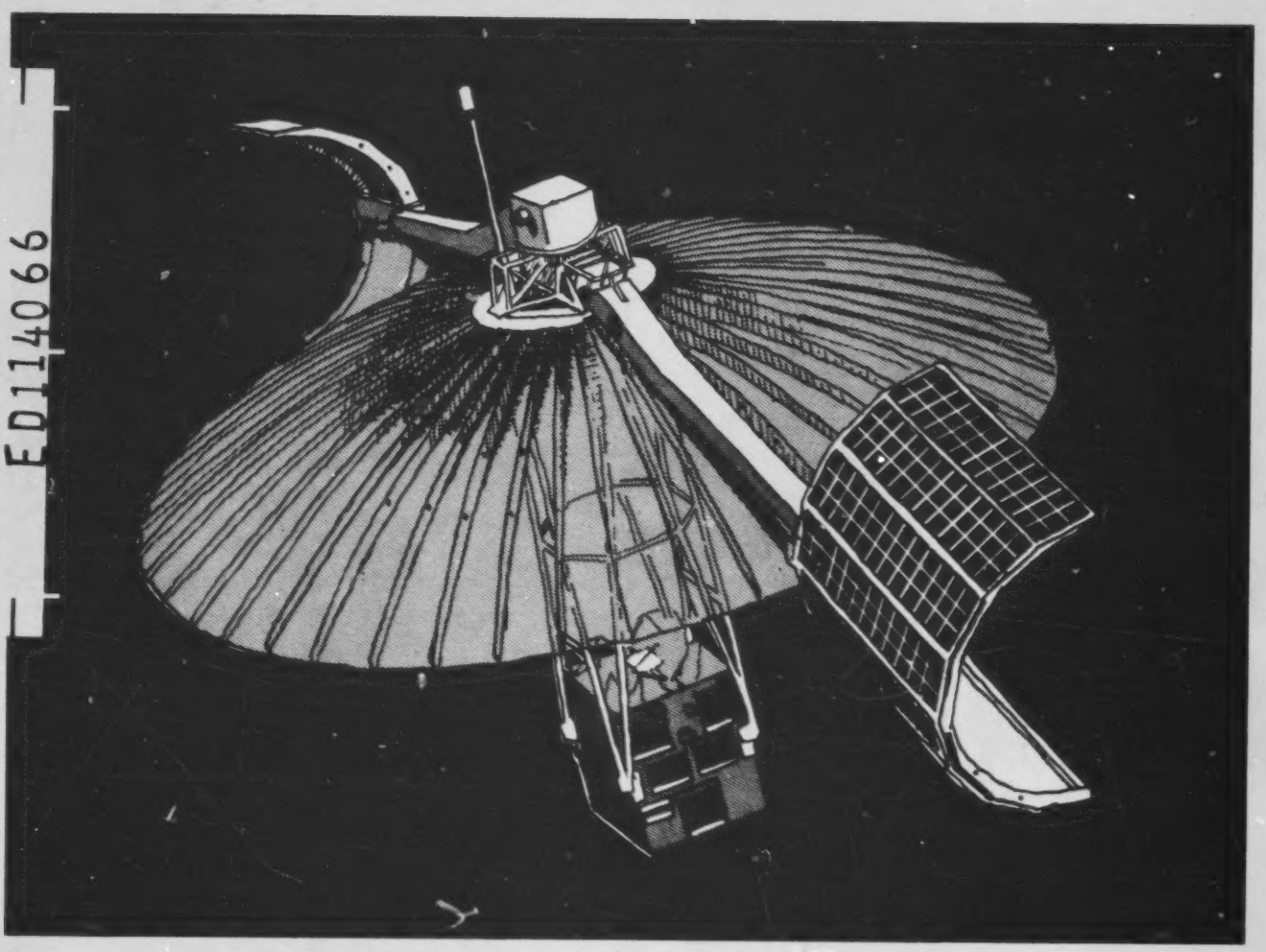

Student Achievement: DPRI 1

appalachian education satellite project

Technical Report

number 8

ERIC 080698

STUDENT ACHIEVEMENT:

DIAGNOSTIC AND PRESCRIPTIVE READING INSTRUCTION, SUMMER, 1974

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August, 1975

The Technical Report Series of the Appalachian Education Satellite Project is edited and published by the RCC Evaluation Component at the University of Kentucky, Lexington, Kentucky.

The purpose of this series is to document and disseminate information about the design, implementation and results of the AESP experiment.

William J. Bramble and Cathy Whitton

Editors

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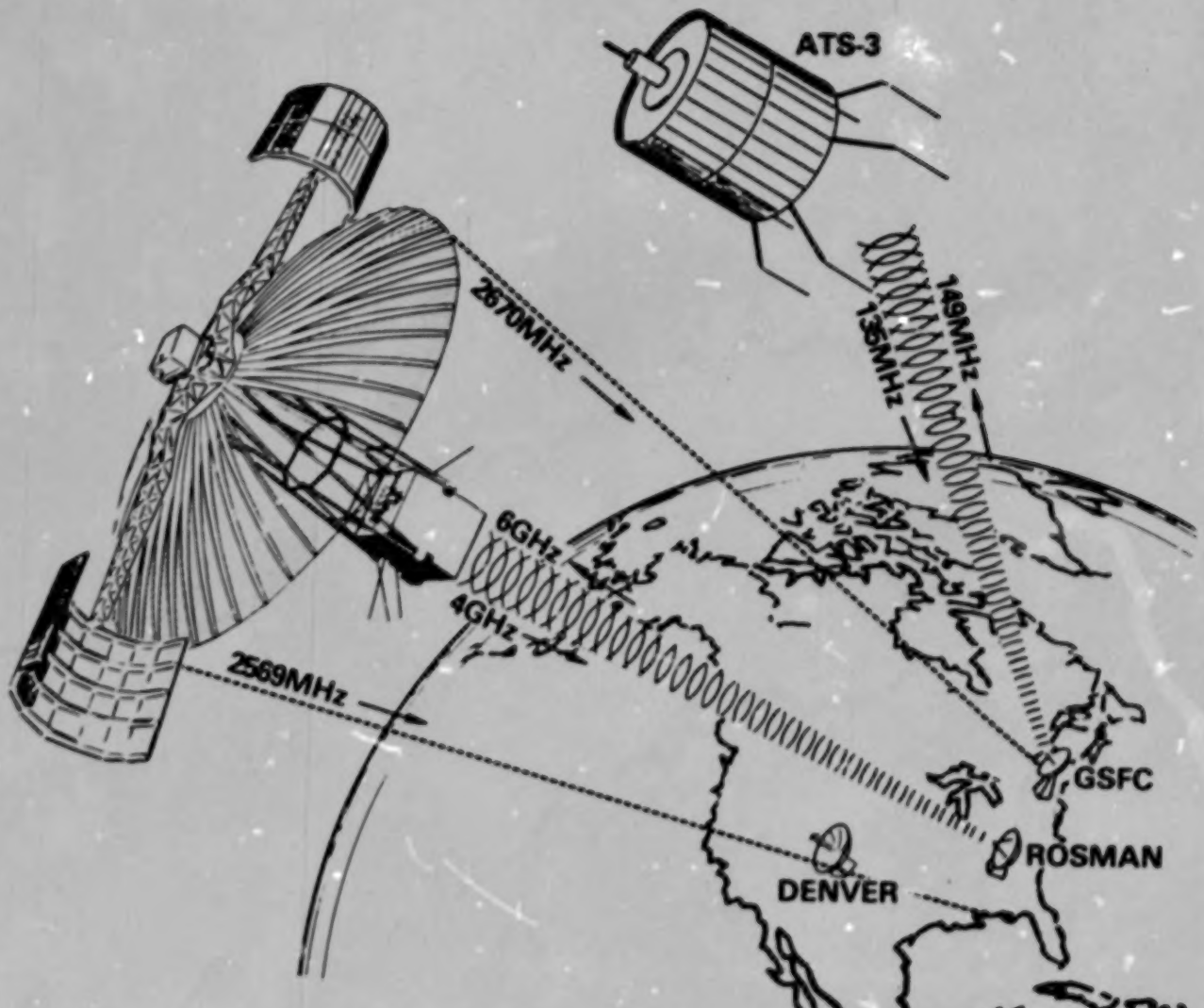
INTRODUCTION

In this report are described the cognitive, affective, and classroom practice changes that were observed in a group of educators who took a course in reading instruction during the summer of 1974. The course was entitled Diagnostic and Prescriptive Reading Instruction and was produced by the Appalachian Education Satellite Project for television broadcast via satellite to sites in the Appalachian region.

The Appalachian Education Satellite Project (AESP) began in June 1973 with a grant from the National Institute of Education to the Appalachian Regional Commission (ARC). The purpose of the project was to demonstrate the feasibility of conducting graduate level courses for teachers using sophisticated NASA communications satellites (see photograph on following page). The four courses developed for the project were in the areas of career education and reading instruction. All software for the courses was developed at the Resource Coordinating Center (RCC) located on the campus of the University of Kentucky in Lexington, Kentucky.

A total of four courses, two in diagnostic and prescriptive reading instruction and two in the career education area, were conducted by satellite between June 1974 and June 1975. The course participants were approximately 1200 teachers (300 per course) gathered at classroom sites at 15 different

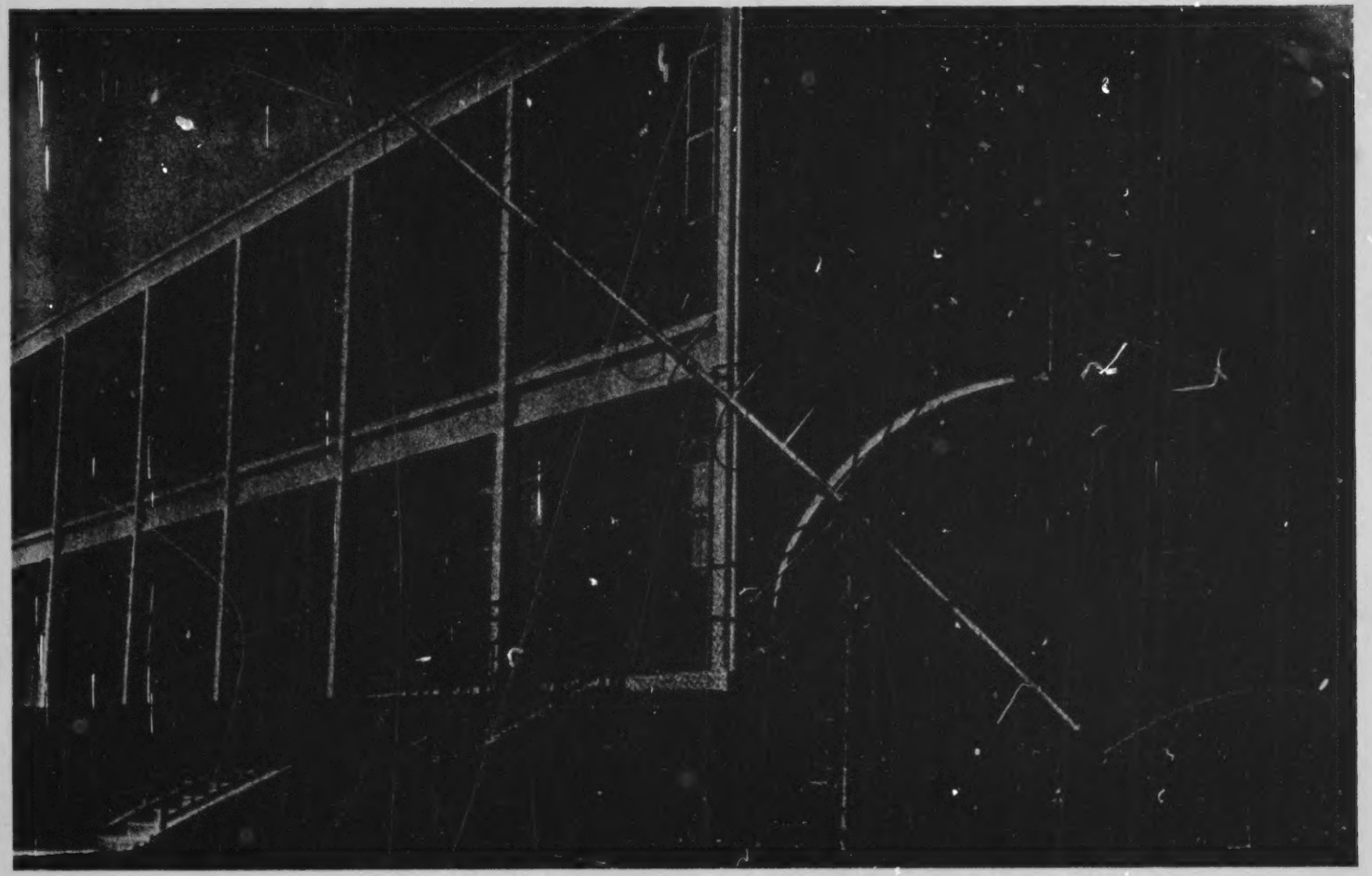


AESP SATELLITES AND EARTH STATIONS

locations in the Appalachian region. The sites were located in eight states from Alabama to New York and were grouped into sets of three, a main site and two ancillary sites. Main sites were able to receive audio and video signals from the RCC transmitted by the ATS-6 satellite and could receive and send voice or teletype signals to or from the RCC and other main sites by the ATS-3 satellite (see photograph depicting receiving antennas). Ancillary sites could receive audio and video signals from the RCC transmitted by ATS-6 and were in telephone communication with the associated main site. Ancillary sites could not receive or transmit via ATS-3. All sites were equipped with a color television monitor and had adequate seating for 20 students.

The monitoring of classroom sites and many other project related tasks conducted at the local level were the responsibility of project staff members employed at participating Regional Education Service Agencies (RESAs) affiliated with the Appalachian Regional Commission.

The Diagnostic and Prescriptive Reading Instruction (DPRI) course for K-3 teachers was conducted using the two NASA satellites during the summer of 1974. The course was designed so that high quality instruction and the opportunity for student interaction with content experts was possible. However, it was not necessary for an expert in reading instruction to be on-site during class meetings. The course consisted of twelve half-hour color videotaped lessons; twelve associated audio review segments (one for each videotaped lesson), laboratory activities, unit tests, and related reading materials; and three forty-five minute live, interactive televised seminar programs.

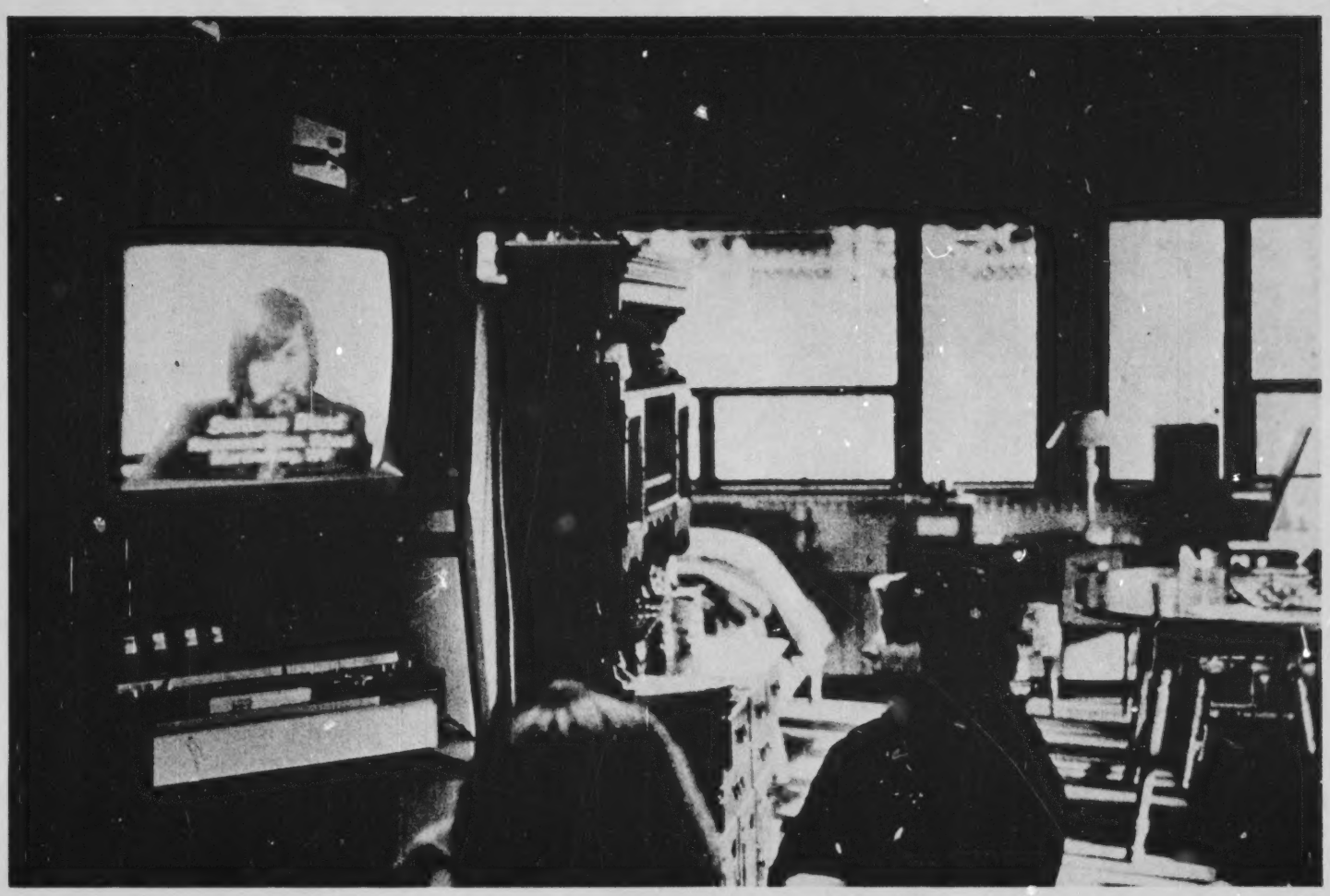


Audio-Video and Two-Way Radio Antennas
at Intensive Site in Cumberland, Maryland

The DPRI course was developed by Dr. Lowell Eberwein, Assistant Professor of Curriculum and Instruction at the University of Kentucky, and Paul LaVeque, a Producer-Director at University of Kentucky Television in cooperation with many other professionals on the AESP staff. The course focuses on how teachers can recognize and assess reading deficiencies, use diagnostic-prescriptive information systems, apply a large number of reading-improvement techniques, and conduct individualized and group instruction. The course was designed to meet the needs of Appalachian teachers and considerable use was made of regional filming in illustrating points made in the lecture. Every effort was made, within the time frame of the production schedule, to involve teachers, administrators, and other school personnel as well as cooperating faculty at various universities and colleges in the Appalachian region in the planning and development of the course. The goal was to make the course particularly responsive to the needs and interests of teachers in the region. Graduate credit was available to the course participants at the University of Kentucky and at a number of cooperating universities in the region.

The twelve half-hour videotaped lessons (one of which the students are watching in the photograph on the next page) can best be described as studio-based presentations by the course instructor heavily supported by special filmed materials including classroom scenes and interviews with various professionals in the field of education.

A course outline for the DPRI course is included in Appendix A. The pretaped audio review segments consisted of four to five four-choice multiple choice questions. Each question was presented simultaneously on



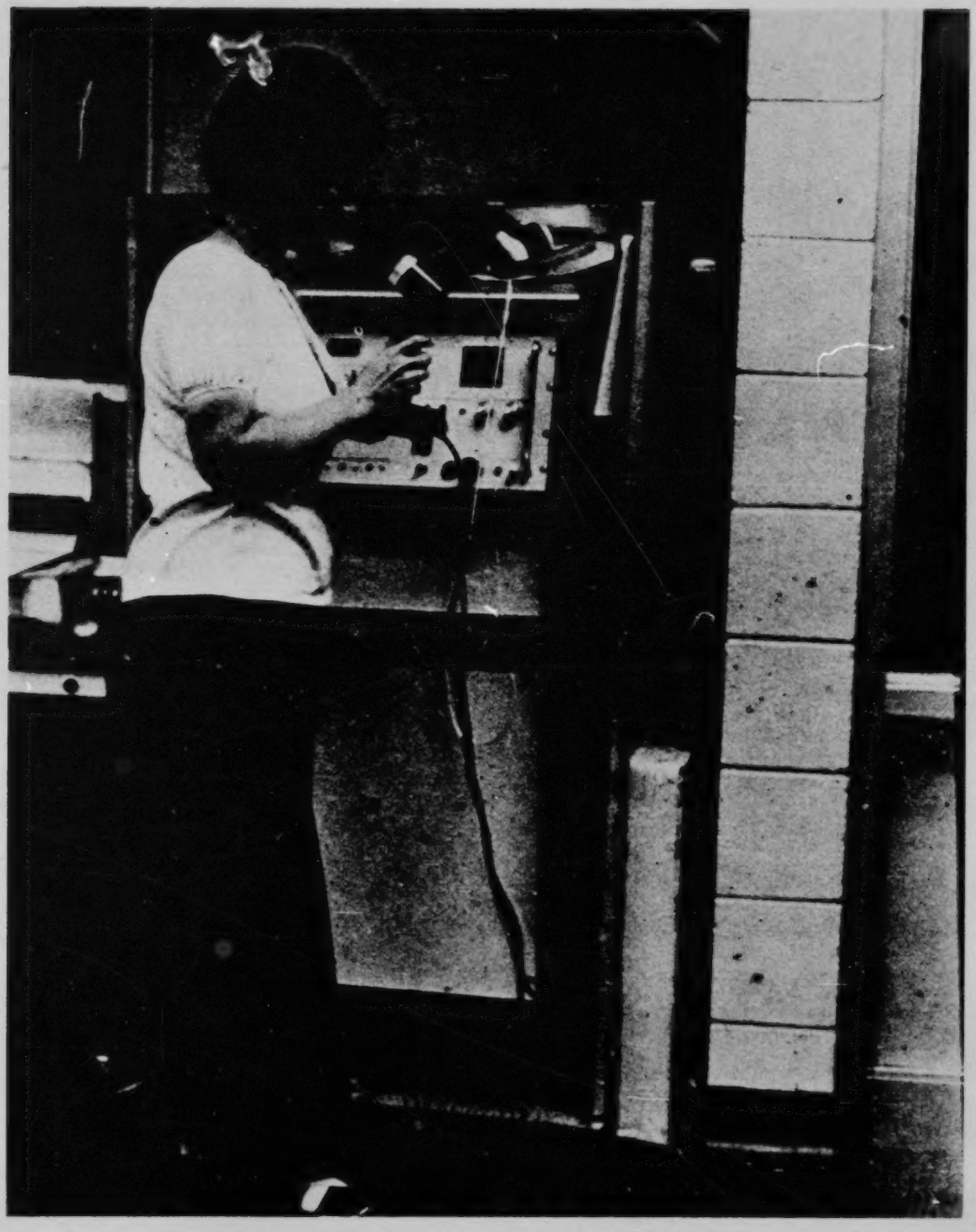
Indoor Equipment for Television Reception of
Satellite Signals at Fredonia, New York

four audio tracks. The student then selected the audio track corresponding to what he believed the correct answer to be. An explanation of the correctness or incorrectness of the answer was contained on the track selected by the student. The questions were constructed to reinforce and expand upon the materials presented in the videotaped program the student had just viewed. Since there were four audio tracks and the series of questions was presented in rigid serial order the activity was similar to programmed instruction in that branching was possible within questions. However, branching between questions was not possible. Special equipment for the four-channel audio instruction including the student response selectors and electronic equipment for automatically recording answers is described in AESP Technical Report #5 (Bramble and Ausness, 1975). The equipment is depicted photographically in the illustration on the next page.

The live, interactive seminars (see photograph) were structured in the following way. The course instructor served as moderator for a panel of three professionals in the field of reading instruction. Questions about the subject matter of the course were transmitted from the main classroom sites to the Lexington, Kentucky studio via teletype transmission using ATS-3. Thus hard copy was immediately available for the questions. Questions from ancillary sites were teletyped via telephone lines to the associated main site and then to the Lexington studio by satellite (see photograph of site coordinator transmitting seminar questions). Questions were screened in Lexington to minimize redundancy and passed to the moderator to be posed to the seminar guests. Questions were identified by classroom site as they were read over the air.

Werner Von Braun, Vice President of Engineering and Development
for Fairchild Industries, Selecting Answer for Four-Channel Audio Review Question

Dr. Rupert N. Evans with Seminar Guests
Discussing Students' Questions Relayed from Sites



Huntsville, Alabama Site Transmitting
Seminar Questions Via VHF Satellite Delivery System

The major project objective of delivering the course via satellite was achieved with minor exceptions. As this was the first scheduled use of the satellite, the uplink, and the reception sites there were some "bugs" to be worked out. Originally, there were to be four seminar broadcasts. However, due to problems with the satellite uplink it was not possible to broadcast any programs on July 18, 1974. The videotaped presentation scheduled for that day was broadcast on a postponed basis, but it was not possible to reschedule the seminar guests and the seminar was cancelled. There were equipment malfunctions at several classroom sites which precluded the viewing of about 2% of the programs. Videotapes and other materials were made available to students at these sites to make up the class activities missed. The major equipment problem was the audio review equipment and the problem here was late delivery. The equipment was available to students for fewer than half of the programs and printed scripts were substituted for the majority of the programs. The transmission and reception (and general equipment) reliability is discussed in AESP Technical Report #5 (Bramble, Ausness and Freeman, 1975).

Data were collected regarding a variety of course characteristics. Ratings of the various learning activities, the delivery system, and equipment were obtained from course participants, site monitors, and cooperating university consultants who visited the sites occasionally. Results from these data were summarized and reported in AESP Technical Report #6 (Marion, Bramble, Wetter, and Whitton, 1975). However, the present report focuses on other data and other questions. The questions are:

1) Did the course participants demonstrate gains in performance on tests keyed to the course objectives?

2) Did the attitudes of the participants towards the instructional methods and materials of diagnostic and prescriptive reading instruction become more positive after taking the course?

3) How did the participants rate the various learning activities included in the course?

4) Do the course participants use the strategies and materials presented in the course in their own classrooms?

5) Did the participants consider the course experience to be valuable?

6) Are the children taught by the course participants better readers today because of the DPRI course?

Insofar as it is possible to do so, this report will provide answers to the above six questions. Presented in the report are the results of pre and post and unit achievement testing, pre and post testing attitudes towards the course objectives, pre-course and follow-up measurement of teaching practices related to reading instruction, and participant ratings of or opinions about general features of the course.

METHOD

Subjects

There were 293 students enrolled in the DPRI course and 275 who completed the course. The number of students at each site 1) who completed the Background Questionnaire, 2) completed the course, and 3) for whom complete data were available for analysis of pre-post gains is presented in Table 1.

TABLE 1

NUMBER OF STUDENTS IN DPRI COURSE BY SITES

Sites	Frequency Completing Background Questionnaire	Frequency Completing Course	Frequency of Complete Cases for Pre-Post Gain Analysis
11 Fredonia, N.Y.	21	21	20
12 Olean, N.Y.	20	19	16
13 Edinboro, PA.	21	21	17
21 Lafollette, TN.	20	20	19
22 Coalfield, TN.	20	19	19
23 Johnson City, TN.	18	16	13
31 Norton, VA.	18	16	14
32 Sticklyville, VA.	19	17	16
33 Boone, N.C.	20	17	15
41 Cumberland, MD.	21	18	18
42 Keyser, W.V.	20	20	20
43 McHenry, MD.	20	19	9
51 Huntsville, AL.	18	17	12
52 Guntersville, AL.	20	20	14
53 Rainsville, AL.	17	15	13
Total	293	275	235

A summary of background information on the students is presented in Table 2. A copy of the Confidential Background Questionnaire may be found in Technical Report #4 (Bramble, Ausness, Harding, and Wetter, 1974, p. 85). From this table it may be seen that the students were typically female elementary school teachers, in their middle thirties, who lived in rural areas. They had an average of nine years experience in general teaching and seven years experience in the teaching of reading. Almost all of the students held at least a baccalaureate degree and one-third of them were working on a master's degree. Most of them had taken undergraduate courses in reading. However, nearly half had not taken any graduate courses in reading. The 29 students who were not teachers were, for example, graduate students, staff from local educational service agencies, or persons working in related fields.

Measurement Instruments Used and Administrative Procedures

The course was intended to produce both cognitive and affective changes in the participants. To measure the cognitive growth, summative pre-posttests were developed that sampled from the total domain of the course content and objectives. Also, unit pre-posttests that sampled from the domain corresponding to one unit of instruction were developed for each of the twelve units of the course. To measure the affective growth associated with the course a Likert scale rating instrument that sampled from the domain of expected desirable attitudes was developed. In order to measure the effects of the course on the teaching practices and methods used by the participants before and after instruction, a questionnaire that

TABLE 2

SUMMARY BACKGROUND INFORMATION FOR DPRI COURSE PARTICIPANTS
(N=291)

Item	Responses	Freq.	Mean	Range
Type of community where participant worked	Rural	237		
	Urban	50		
	no response	4		
Sex	Male	18		
	Female	273		
Age			35.4 years	21-63 years
Position during 1973-74	Teacher	262		
	Counselor	0		
	Principal	0		
	Other	29		
Grade level taught	1	21		
	2	44		
	3	48		
	4	35		
	5-6	16		
	7-9	56		
	10-12	18		
	not applicable or no response	53		
Work experience in teaching			9.1 years	1-39 years
Experience in teaching reading			7.4 years	0-39 years
Undergraduate Grade Point Average (4 points = A)	less than 1.99	1		
	2.00-2.49	27		
	2.50-2.99	107		
	3.00-3.49	120		
	3.50-4.00	21		
	no response	15		

TABLE 2--CONTINUED

Item	Responses	Freq.	Mean	Range
Graduate Grade Point Average (4 points = A)	2.67-2.99	9		
	3.00-3.33	28		
	3.34-3.66	66		
	3.67-4.00	93		
	no response	95		
Last degree completed	High School Diploma	6		
	Baccalaureate	230		
	Master's	46		
	Specialist	6		
	Doctorate	0		
	no response	3		
Number of undergraduate reading courses completed	none	50		
	1	88		
	2	60		
	3	42		
	4	20		
	5	5		
	6	5		
	7 or more	4		
	no response	17		
Number of graduate reading courses completed	none	149		
	1	47		
	2	24		
	3	18		
	4	10		
	5 or more	13		
	no response	30		
Are you enrolled in a college degree program?	No	127		
	Yes: non-degree student	27		
	Baccalaureate	6		
	Master's	105		
	Specialist	16		
	Doctorate	1		
	no response	9		

sampled from the domain of desirable teaching practices was developed. Each instrument is discussed in detail below. The administration schedule for all instruments is shown in Table 3.

Pre-Posttest and Unit Tests of Achievement

The pretest included all the unit and posttest items. The participants completed the pretest at the first class meeting. Each unit posttest was administered at the beginning of the class meeting subsequent to the meeting when the unit materials were presented. The course posttest was given at the last class meeting. Unit tests were delayed until the next meeting because the learning sequence for each unit included the homework activities completed during the intervening week, as well as the preprogram preparation, the televised program, the audio review, and the laboratory period. Gain scores on the pre-posttest measured student learning for the entire course, gain scores on the unit tests measured student learning associated with particular instructional units.

Three of the unit tests were given on the same day as the materials were presented. The unit test for the last day (unit 12) had to be given on the last class day. The tests for units 5 and 11 were also administered on the same day as the instructional activities for these units. On these days an incremental learning experiment was carried out. The participants at each site were randomly divided into three groups. The first group took the unit test immediately after viewing the video program, the second group took the unit test after viewing the video and participating in the audio review, and the third group took the unit test after viewing the audio program, participating in the audio review and completing the laboratory

TABLE 3

ADMINISTRATION SCHEDULE FOR MEASUREMENT INSTRUMENTS USED IN DPRI COURSE

Class Meeting	Date	TV Programs seen and associated laboratory sessions done	Unit Tests administered	Other Tests administered
1	6/27			Pretest, Confidential Background Questionnaire, Teacher Practices Inventory, Teachers Attitude Questionnaire
2	7/11	1, 2		
3	7/18		1, 2	
4	7/25	3*, 4*, 5	5**	
5	8/1	6, 7	3, 4	
6	8/8	8, 9	6, 7	
7	8/15	10, 11	8, 9, 11**	
8	8/22	12	10, 12***	Posttest and Teachers Attitude Questionnaire
Follow-up	2/75			Teachers Attitude Questionnaire, Teacher Practices Inventory, Special Questions Form

*Programs 3 and 4 were scheduled for 7/18. However, the broadcasts were delayed due to technical difficulties.

**These unit tests were taken on the day shown, due to their use as dependent variables in incremental learning experiments that were carried out for lectures 5 and 11.

***Since 8/22 was the last class meeting, unit test 12 was given on the same day as lecture 12 was seen.

exercises. The goal was to determine the amount of pre-post gain, on the unit test due to the additive effects of the three instructional activities. An analysis of these data failed to detect separate effects attributable to the three major learning activities. A detailed account of the experimental design and analysis procedures is presented in Technical Report #4 (Bramble et al., 1974, pp. 34-36).

The pre-posttests and unit tests were multiple choice items with four alternatives. Examples of the items are found in Technical Report #4 (Bramble et al., 1974, pp. 5-9). Total scores for individuals were simply the number of correct responses.

The Kuder-Richardson formula 20 (KR-20) reliabilities are given for each test administration in Table 4. The reliabilities of the tests are somewhat low for cognitive measures since no piloting and item analysis was possible. This should be taken into account when considering the results given in this report.

Teacher Attitude Towards Reading Instruction Questionnaire

The Teacher Attitude Towards Reading Instruction questionnaire was administered on a pre, post, follow-up basis and consisted of 36 statements to which the students responded by rating the degree to which they agreed with each statement. The ratings could range from 1 - strongly disagree to 5 - strongly agree. This instrument was administered three times; at the beginning and at the end of the course and as part of a follow-up study six months later.

TABLE 4

KR-20 RELIABILITIES FOR PRE-POSTTESTS AND UNIT TESTS FOR DPRI COURSE

	# Items	Number of Subjects	KR-20	Skewness	Kurtosis
Pretest	60	271	.664	-.61*	.71*
Posttest	60	275	.747	-1.47*	3.61*

		Pre-Administration		Post-Administration	
Unit Test	# Items	Number of Subjects	KR-20	Number of Subjects	KR-20
1	12	271	.398	280	.359
2	12	271	.300	282	.493
3	12	271	.201	257	.286
4	12	271	.434	253	.544
5	12	271	.096	271	.389
6	12	271	.272	271	.526
7	12	271	.246	271	.618
8	12	271	.333	269	.595
9	12	271	.271	269	.605
10	12	271	.424	272	.376
11	12	271	.362	248	.504
12	12	271	.416	273	.488

*These values are significantly different at the .05 level from values that would indicate a normal distribution.

It measures attitudes towards the following principle:

1) That diagnostic and prescriptive reading instruction is a good way to teach reading;

2) That diagnosis of individual needs is the necessary first step in the effective teaching of reading;

3) That teachers should integrate the learning of word recognition and comprehension skills with the development of other language arts;

4) That teachers can help their students develop reading-readiness skills;

5) That recognizing individual words is less indicative of a child's reading skill than his ability to comprehend the meaning of a passage.

The statements were phrased so that there was a balance between positive and negative wording of items. A copy of this instrument may be found in Technical Report #4 (Bramble et al., 1974, p. 39).

The responses obtained from the first administration at the beginning of the course were factor analyzed. The factor solution was unifactor. The first factor accounted for 87.6% of the estimated common variance. Items with a loading on factor one greater in absolute value than .39 were retained for scoring. Scores on the instrument were obtained by summing the responses across statements. Responses to items that loaded negatively were reversed.

The reliability for the instrument, estimated from the post administration using the coefficient alpha (see Nunnally, 1967, pp. 196-198) was found to be .807. The 23 items selected from the original 36 are given in Table 5.

The items retained came more or less equally from the five areas mentioned above. Thus, these areas were not separate dimensions, but the areas taken together form a general measure of teacher attitude towards diagnostic and prescriptive reading techniques.

Teaching Practices Inventory

This instrument was administered before the course and during the follow-up study. It included 53 dichotomous, multiple choice, and completion items and was designed for two purposes. First, the instrument allowed course participants, through responding to the questions, to describe the educational environment in which they work. Second, the instrument measured the degree to which participants implemented the techniques and procedures of DPRI in their jobs. The instrument was administered immediately prior to the course and six months after the completion of the course as part of the follow-up study. A copy of this instrument appears in Technical Report #4 (Bramble et al., 1974).

Special Questions Form

This instrument was administered to a stratified (by site) random sample of 50 course participants during the follow-up study. It included nine items of the multiple choice and completion type. Adequate space was provided for comments and respondents were urged to provide comments. The instrument included items to determine why the respondents signed

TABLE 5

FACTOR LOADINGS FOR SELECTED DPRI ATTITUDE ITEMS

Item	Statement	Loading
4	A third-grade teacher only needs third-grade instructional materials.	-.689
5	Kindergarten teachers should help children develop reading readiness skills.	.606
6	A student is a good reader if he can read every word correctly.	-.601
7	Not using every page in the workbook is wasteful.	-.677
9	Time spent diagnosing could be better spent instructing.	-.645
11	Diagnosing student reading problems is the responsibility of the teacher, rather than the school administration.	.413
12	Scores on standardized tests provide adequate information for instruction.	-.551
14	Informal tests are better than standardized tests for placing students at appropriate instructional levels.	.420
15	Teaching students to understand what they read is more important than to sound out the words.	.387
16	Prescriptive instruction is the best way to teach reading.	.447
17	There's nothing a teacher can do to develop reading readiness in students.	-.777
18	It is more important that a student understands what he reads than that he reads without making miscues.	.629
19	Diagnosing word-recognition weaknesses is more trouble than it's worth.	-.681
20	Information systems linking diagnosis and instruction are effective ways to plan instructional activities.	.698

TABLE 5--CONTINUED

Item	Statement	Loading
21	Vocabulary should be taught through real life experience.	.637
23	Grouping children on the basis of common skill needs is better than grouping them on the basis of instructional level.	.499
24	Students in your class should all read the same thing, so no one feels bad.	-.732
25	An analysis of oral reading miscues is more trouble than it's worth.	-.660
26	Reading should be integrated with all other classroom activities.	.746
28	Reading instructions should focus more on reconstructing meaning from the written page than pronouncing words.	.495
33	One responsibility of the primary reading teacher is to expose students to different kinds of experiences.	.755
34	Teachers only need to diagnose student needs in the fall of the year.	-.812
35	The emphasis given phonics changes according to student needs.	.680

up for the course, whether they would take it again, whether the skills they learned were useful in their classrooms, whether they liked instruction via communications satellite, whether the seminars were truly interactive, and whether the site coordinator was viewed as helpful. A copy of this instrument appears in Appendix B.

RESULTS

The results are presented for each of the questions included in the introductory sections. The first two questions are considered together.

> Did the course participants demonstrate gains in performance on tests keyed to the course objectives?
>
> Did the attitudes of the participants toward the instructional methods and materials of Diagnostic and Prescriptive Reading Instruction become more positive after the course?

The pre-post achievement test for the course obtained 60 multiple choice items keyed to the behavioral objectives of the course. The pre-post attitude test included 23 Likert type items for which a single measure (for each administration) of attitude towards course principles and concepts could be obtained. These tests were administered immediately before and after the students took the course. The students were grouped by classrooms, three of which were nested within each of the five reception triangles. Thus the overall design for assessing student gain in achievement is a two administrations (occasions) by five triangles by three sites within triangles AOV design. This design includes a factor (administrations) having repeated measures and a factor (sites) which is nested within another factor (triangle). Since there are two dependent variables (achievement and

attitude, the design is multivariate, i.e., this is a multivariate analysis of variance design. The sources of variance, degrees of freedom, and appropriate error terms for this design are given in Table 6.

TABLE 6

SOURCES OF VARIATION ERROR TERMS, AND DEGREES OF FREEDOM FOR ANALYSES OF VARIANCE DESIGN FOR DPRI COURSE

Source	Error Term	df
Between Subjects		N
Triangles (T)	S:T	t-1
Sites within Triangles (S:T)	E_b	t(s-1)
Error between (E_b)		N-t(s)
Within Subjects		N(a-1)
Administration (A)	E_w	a-1
A x T	S:T	(t-1)(a-1)
A x S:T	E_w	t(s-1)(a-1)
Error within (E_w)		(N-t(s))(a-1)

Key: t = number of triangles
s = number of sites within triangles
a = number of occasions
N = total number of subjects

The multivariate tests of significance are given in Table 7. Under the "Between Subjects" heading are given the tests for the grand mean and triangle and site/triangle differences on the two dependent variables. The triangle differences are not significant while the differences among sites within triangles are significant. Given the wide variation among

TABLE 7

MULTIVARIATE AOV FOR ACHIEVEMENT AND ATTITUDE SCORES FOR DPRI COURSE

Source	df	Mult. F	df	p<
Between Subjects				
Triangles (T)	4	1.32	8,18	.2959
Sites within Triangles (S:T)	10	2.20	20,438	.0023
Within Subjects				
Administration (A)	1	410.86	2,219	.0001
A x T	4	1.70	8,18	.1653
A x S:T	10	1.32	20,438	.1609

the triangles on economic, educational and other variables, the lack of variation among triangles is puzzling. Variation associated with the particular situation at classroom sites is not an unusual finding. Under the "Within Subjects" heading are the tests associated with the repeated administrations of the tests (i.e., gain scores) and the triangles by gain and sites/triangles by gain interactions. Among these tests only the pre-post gain is significant.

Univariate and step-down results for the two significant sources of variance are presented in Table 8. Through inspection of this table we can determine the dependent variables on which the effects are observed. For the site/triangle variation (i.e., the variation associated with the particular features of each classroom) the achievement scores vary signif-

TABLE 8

UNIVARIATE AND STEP-DOWN F TESTS FOR ACHIEVEMENT AND ATTITUDE SCORES FOR DPRI COURSE

Source	Variable	df	F	p<	Step-Down F	p<
S:T	Achievement	10,220	3.29	.0006	3.29	.0006
	Attitude	10,220	1.52	.1326	1.17	.3149
A	Achievement	1,220	782.48	.0001	782.48	.0001
	Attitude	1,220	32.31	.0001	9.39	.0025

icantly. Thus performance on the achievement test was site (classroom) specific. The univariate tests for pre-post gain (the administration contrasts) are also included in Table 8. In this instance both the achievement and attitude gains were significant.

The estimated achievement gain was 8.954 (S.E. = .322) and the estimated attitude gain was 2.004 (S.E. = .356). The pretest mean on the achievement test was 37.12 (61.9% correct) and the posttest mean was 46.07 (76.8% correct). The estimated gain was 8.95 or 14.9%. Thus if mastery is defined at about 75% to 80% correct the students on the average mastered the course material. However, they apparently brought considerable expertise to the course. The pretest mean on the measure of attitude towards the course content was 68.27 and the posttest mean for this instrument was 70.27. There were 27 Likert items on this instrument and the mean responses to items on this instrument were 2.968 and 3.055.

The estimated gain per item is thus .087. While the attitude gain is statistically significant, its practical significance is questionable. Students went from very slightly below neutral to very slightly above neutral on this instrument.

A better understanding of the site/triangle differences on the achievement variable is provided by separate multivariate analyses of variance for the pretests and the posttests. The multivariate results from these analyses are presented in Tables 9 and 10 and the univariate and step-down tests for these analyses are presented in Tables 11 and 12. In comparing the results from these two analyses it is apparent that site variation in achievement is increased as a function of the course experience rather than reduced. It would be interesting to determine what specific characteristics of classroom sites (facilities, staff, etc.) or student groups are associated with these differences. This is a topic of some interest for future satellite users. The paradoxical result here is that the expected finding was considerable heterogeneity at the outset, but greater homogeneity in ability as a function of a common experience. Exactly the opposite was found. In an effort to explain this anomaly the site means on the achievement and attitude means were inspected. These means are not presented in this report because cooperating RESAs were told data would not be reported by site during the planning of the Appalachian Education Satellite Project. General trends that were apparent in these means were as follows. Achievement gains were related to attitude scores in a very complex manner. Sites with above average means on the attitude test prior to the course tended to have high achievement post test means. Just the opposite was true

TABLE 9

PRECOURSE DIFFERENCES IN ACHIEVEMENT AND ATTITUDE FOR DPRI COURSE

Source	df	Mult. F	df	p<
T	4	1.44	8,18	.2470
S:T	10	1.62	20,438	.0435

TABLE 10

POSTCOURSE DIFFERENCES IN ACHIEVEMENT AND ATTITUDE FOR DPRI COURSE

Source	df	Mult. F	df	p<
T	4	2.08	8,18	.0936
S:T	10	2.32	20,438	.0011

TABLE 11

UNIVARIATE AND STEP-DOWN F TESTS FOR PRECOURSE DIFFERENCES FOR DPRI COURSE

Source	Variable	df	Univ. F	p<	Step-Down F	p<
S:T	Achievement	10,220	1.78	.0664	1.78	.0664
	Attitude	10,220	1.71	.0802	1.48	.1468

TABLE 12

UNIVARIATE AND STEP-DOWN F TESTS FOR POSTCOURSE DIFFERENCES FOR DPRI COURSE

Source	Variable	df	Univ. F	p<	Step-Down F	p<
S:T	Achievement	10,220	4.33	.0001	4.33	.0001
	Attitude	10,220	.49	.8946	.48	.8993

when considering site means on the posttest for attitudes. In this instance low attitude posttest means were associated with high posttest means on the achievement test. Also low mean gains in attitude scores were associated with high mean gains in achievement. Thus the attitude and achievement site means reveal an interaction in the classic sense of the term. Viewed the other way around, high attitude site means are associated with high achievement pretest means but low achievement posttest means. Also, high site mean gains in attitude are associated with low mean gains in achievement.

The within-cell correlation matrix is presented in Table 13. This is the correlation matrix that results when all design effects have been removed from the variables prior to the computation of the coefficients. Correlations among the pre and post measures of attitude and achievement are small.

The largest correlation is between the pre and post scores on the achievement test. The correlation for the attitude test across occasions is low. These coefficients are lower than one would expect and reflect the moderate reliabilities of the measures involved and changes in the scores as

TABLE 13

WITHIN-CELL CORRELATION MATRIX FOR PRECOURSE AND POSTCOURSE ACHIEVEMENT AND ATTITUDE FOR DPRI COURSE

Variable	1 Precourse Achievement	2 Postcourse Achievement	3 Precourse Attitude	4 Postcourse Attitude
1	1.00			
2	.450	1.00		
3	.154	.139	1.00	
4	.157	.082	.194	1.00

a function of the course experience. The correlations between attitude and achievement are very low.

Another analysis of some interest involves a third administration of the attitude measure. This administration was in February and March of 1975, six months after the completion of the course. The attitude test was mailed to the course participants as part of a follow-up package. The return rate was approximately 67% (183 returns from 275 persons completing the course). Scores for 161 persons completing the attitude test on all three occasions were the only ones included in the analysis. Thus the sample in this case is biased, including only those persons cooperating in the follow-up study. The multivariate results for the 5 triangle by 3 sites/triangle by 3 administrations AOV are given in Table 14. The only significant source of variance was associated with the repeated administrations of the instruments. When the linear and quadratic sources of variance were considered separately they were both significant (see Table 15). The trend

TABLE 14

REPEATED MEASURES ANALYSIS FOR THREE ADMINISTRATIONS OF THE ATTITUDE TEST FOR DPRI COURSE

Source	df	MS	Error Term	F	p<
Between Subjects	160				
Triangles (T)	4	83.33	S:T	.73	NS
Sites within Triangles (S:T)	10	114.93	E_b	1.33	NS
Error between	146	86.34			
Within Subjects	322				
Administration (A)	2	49596.78	E_w	556.64	.0001
A x T	8	35.53	S:T	.34	NS
A x S:T	20	104.76	E_w	1.18	NS
Error within	292	89.10			

TABLE 15

ORTHOGONAL POLYNOMIAL CONTRAST RESULTS FOR THE THREE ADMINISTRATIONS OF THE DPRI ATTITUDE TEST

Variable	MS	Univ. F	p<	Step-Down F	p<
Mean	9,171,627.0	35,410.58	.0001	35,410.58	.0001
Linear	79,388.38	591.50	.0001	196.70	.0001
Quadratic	19,805.18	450.17	.0001	26.92	.0001

is shown graphically in Figure 1. The gains in attitude score during the course are quite moderate in comparison to gains on this measure in the 6 months following the course. Correlations among the attitude scores on the three administrations are presented in Table 16. Again the coefficients are small.

TABLE 16

WITHIN-CELL CORRELATION MATRIX FOR THREE ADMINISTRATIONS OF ATTITUDE TOWARDS READING INSTRUMENT FOR DPRI COURSE

Variable	1 Precourse	2 Postcourse	3 Follow-up
1	1.00		
2	.205	1.00	
3	-.117	.038	1.00

The pre-post AOV results for the unit achievement tests are summarized in Table 17. The design is again 5 triangles x 3 sites/triangles x two administrations. AOV results are for the raw scores though the pre-post means are expressed as percentages. All the pre-post administration gains are significant except for unit 8. Mean gains range from 3.7% for unit 1 to 26.3% for unit 9. Since the scores on these tests are a function of the items which compose them and since no effort was made to psychometrically equate these tests it is not possible to meaningfully compare the mean scores and mean gains across these tests to determine the relative effectiveness of the units which make up the course. Considering the other sources of variance included in Table 17 it can be stated that there was

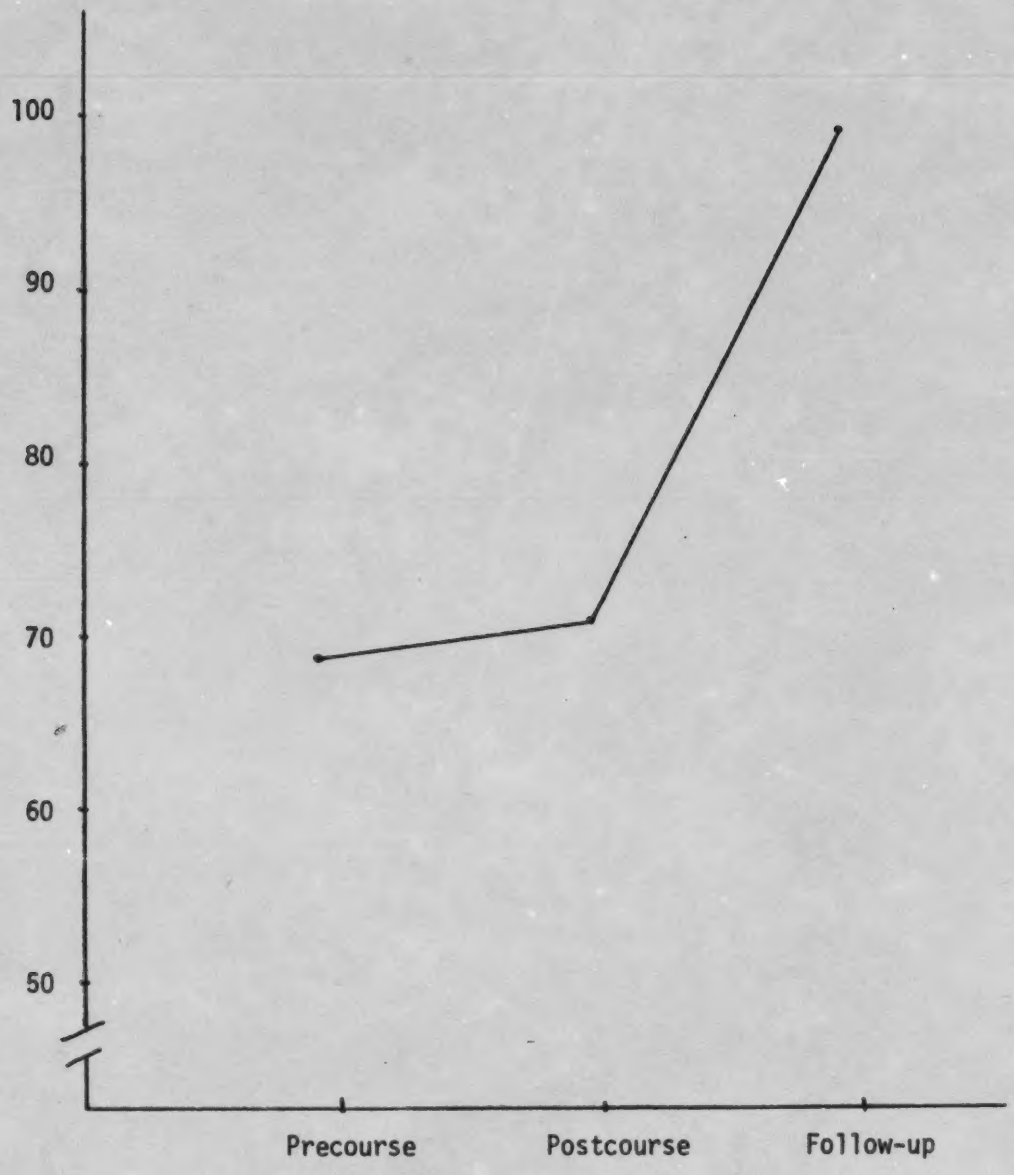


Fig. 1 -- Mean Scores for three Administrations of Attitude Toward Reading Instrument (N=161)

TABLE 17

MEANS, STANDARD DEVIATIONS AND AOV RESULTS OF GAINS FOR PRE-COURSE AND POST UNIT ADMINISTRATIONS OF UNIT TESTS FOR DPRI COURSE

Unit Test	Mean Percent Right		Percentage Gain	N	F-Ratio by Source of Variation				
	Pre	Post			T	S:T	A	A : T	A x S : T
1	69.8	73.5	3.7	127	12.63*	.67	4.99*	2.96	1.56
2	63.2	76.4	13.2	234	4.10*	.92	72.09*	.23	1.88*
3	52.9	69.2	16.3	211	1.81	2.69*	119.64*	.24	3.52*
4	61.9	85.3	23.4	207	1.41	4.12*	242.04*	.93	2.61*
5	38.2	49.1	10.9	228	1.89	1.66	34.21*	.28	1.22
6	50.5	68.5	18.0	230	1.57	2.91*	114.49*	.68	1.08
7	48.5	58.1	9.6	230	1.17	3.22*	18.57*	.25	4.22*
8	77.3	83.4	6.1	231	.69	2.73*	3.33	1.94	1.29
9	42.6	68.9	26.3	217	.32	2.73*	208.44*	.69	2.25*
10	71.1	80.8	9.7	233	1.23	1.79	46.07*	1.91	2.21*
11	64.6	74.7	10.1	194	1.67	3.57*	48.29*	1.15	.90
12	69.2	87.0	17.8	233	.65	5.25*	158.89*	1.75	.94

* $p < .05$

generally little systematic triangle or triangle x administration variation. For some unit tests, however, there is significant site within triangle or administration x site within triangle variation. The aspects of the various course units that are associated with the presence of these effects deserve further study.

How did the participants rate the various learning activities included in the course?

In Table 18 are presented the means and standard deviations of responses to questions comparing nine of the course activities to their on-campus analogies. Responses were on a five-point Likert scale (where 5 is high). The instrument was administered three times during the course (after approximately 1/3, 2/3, and all of the course had been completed). Separate occasion means are given for each item as well as the combined mean for all occasions. All course activities were rated significantly above their on-campus version (i.e., all ratings were significantly, $\alpha = .05$, greater than a 3 rating). Rated most favorably were the on-site reference materials, information retrieval systems, and televised programs. Means on the three occasions are surprisingly consistent. In fact the means across all items are almost identical for the first two occasions (3.70, 3.69 respectively) while that for the final occasion is about .1 higher at 3.79). This difference and the differences across occasions for individual items are small. The one possible exception to this is the upward trend in ratings of the TV programs across occasions. This reflects the well documented preference (see Technical Report #6, Marion et al., 1975) for the more practical and applied content of the later programs.

TABLE 18

ITEM MEANS AND STANDARD DEVIATIONS FOR INSTRUCTION FEEDBACK QUESTIONNAIRE
DPRI COURSE

Item*		Administration Number 1	Administration Number 2	Administration Number 3	Overall
1. Pre-Program preparation compared to work assigned in other graduate classes.	Mean	3.72	3.58 [3]	3.79 [2]	3.70
	s.d.	.86	.92	.96	.92
	N	184	233	252	
2. TV Program compared to a graduate lecture.	Mean	3.47 [2,3]	3.86 [1]	3.97 [1]	3.81
	s.d.	1.10	.91	.95	.97
	N	158	233	252	
3. Four-Channel Audio compared to class quizzes followed by a discussion of the answers.	Mean	3.60	3.57	3.53	3.56
	s.d.	1.12	1.19	1.23	1.19
	N	143	233	252	
4. Ancillary activities compared to laboratory activities in other graduate classes.	Mean	3.81	3.70	3.80	3.77
	s.d.	.89	.89	.97	.92
	N	181	233	252	
5. On-site reference materials compared to materials placed on reserve by other graduate instructors.	Mean	4.10	4.00	4.08	4.06
	s.d.	.94	.90	.90	.91
	N	181	233	252	
6. Retrieval systems materials compared to materials other graduate courses use to help students.	Mean	3.81	3.91	3.75	3.82
	s.d.	.92	.95	1.23	1.06
	N	143	191	222	
7. Televised interactive seminars compared to graduate seminars and class discussions.	Mean	3.40 [3]	3.44	3.59 [1]	3.49
	s.d.	1.05	1.02	1.10	1.06
	N	113	198	222	
8. Homework assignments compared to other graduate classes.	Mean	3.61	3.58 [3]	3.76 [2]	3.66
	s.d.	.99	.99	1.11	1.04
	N	165	192	222	
9. Unit tests compared to instructor made tests in other graduate classes.	Mean	3.82 [2]	3.59 [1,3]	3.88 [2]	3.77
	s.d.	.81	.94	.93	.90
	N	165	193	222	

*5-point Likert scale 1 = unacceptable -- 5 = outstanding

Superscripts denote means that are found to be different from a given mean at the .05 level of significance.

Do the course participants use the strategies and materials presented in the course in their own classroom?

Data relevant to this question were obtained from the Teaching Practices Inventory administered before the course and during the follow-up study, and the Special Questions Form, administered during the follow-up study.

A complete tabulation of response frequencies and percentages for the two administrations of the Teaching Practices Inventory is presented in Appendix C. A condensed discussion of the results on this instrument is presented here. This discussion begins not with the topic of utilization of DPRI procedures in the classroom, but with a general discussion of variables representative of the milieu in which the course participants work. A number of background characteristics of course participants were already discussed in the method section of this report. Other relevant characteristics are included among the items on the Teaching Practices Inventory.

One set of these characteristics which is highly related to the successful implementation of DPRI is the amount of input participants feel they have into curriculum development (on a school-wide or district-wide basis). Where a need for curriculum revision was identified (items 42-43) respondents in the follow-up sample in particular felt that they were not personally able to help with this revision. From items 50-53 it was found that the faculties of the schools in which the participants work (typically teach) are not departmentalized, there is only moderate

encouragement or cooperation in curriculum planning, and curriculum development seems to be an activity undertaken by the individual teacher, as an individual. The participants feel inhibited in their efforts at curriculum development (item 48) by such factors as lack of time, money, resources and skills, but are encouraged in their curriculum development efforts (item 49) by self-confidence and their perceived knowledge in the field of reading (particularly after the course). The participants view as their main sources of assistance in curriculum planning (item 41) fellow teachers, the principal, and the guidance counselor. Though fewer than half of the participants state they have served on a curriculum committee (item 40), most feel that they are encouraged to experiment with their classroom curriculum by their principal or supervisor (item 38) and that they do have input into the curriculum they implement (item 37). The picture presented here is one of teachers who do not have major input into planning of curriculum on a large scale, but who feel that there are significant opportunities for curriculum development in their own classrooms.

Another set of characteristics is related to supporting equipment and materials for the implementation of a given reading curriculum in the classroom. Items 27-32 cover certain aspects of this issue. There is a fair amount of equipment and supporting resources existant in the schools represented by the participants. Given the unequal distribution of funding in the region, however, (see Technical Report #1, Bramble, Ausness, Harding, and Wetter) it is probable that in a portion of the schools these resources are inadequate for optimal implementation of a DPRI curriculum.

A third set of characteristics of some interest relate to the general teaching strategies and approaches prevalent in the region; insofar as these strategies and approaches are represented in the population of course participants. Items 4 and 17-26 are relevant here. The participants report experience teaching in a self-contained classroom (item 17), where the noise level is moderate (item 18), where students tend to be mildly interested to enthusiastic about learning (item 20),where teachers plan their own instructional activities and use a mixture of small group, large group, and individual instruction (item 22), and where teachers enlist the aid of their students in helping or tutoring each other. Lesson plans, rather than based on state-wide, system-wide, school-wide, or commercially available curriculum plans, are reported as self-planned (item 26).

Given this description of the milieu in which the course participants are working what about the original question? Are the participants implementing DPRI procedures in their own classrooms? Item 1 on the Teaching Practices Inventory asks very directly about instructional organization. Descriptions of four alternative methods of teaching reading are presented and the participant is asked to choose the approach which characterizes his own teaching. Alternative four (the DPRI alternative) "children were assigned reading materials based on skill weaknesses", was chosen by 49% of the participants entering the course and 70% of the participants in the follow-up sample. Item 6 on the teaching practices inventory also asks the participant to choose his approach to reading instruction from a list of five approaches (by name rather than description). Alternative five, prescriptive instruction, was chosen by 15% of the

participants prior to taking the course and 53% of the participants after taking the course. Thus the reported degree of implementation of the DPRI approach is substantial. Similarly, on the Special Questions Form (items 2 and 3) which is summarized in Table 19, the participants overwhelmingly responded that they (92%) learned many useful skills and techniques in the DPRI course that were potentially useful in their jobs and that they (81%) are applying many of these skills and techniques in their own classrooms.

Techniques and materials most often mentioned by the respondents are:

- informal reading tests
- diagnostic techniques for determining skill weaknesses
- prescriptive instruction
- standardized tests
- test-teach-test method of instruction
- small group work based on ability levels and skill needs
- games and other techniques for specific types of instruction illustrated
- techniques for building word attack, comprehension, vocabulary, and work study skills.

Items measuring the usefulness of particular features of the DPRI course are included in items 2-16 on the Teaching Practices Inventory. Participants report grouping students by skill weaknesses and using information from several types of tests as an aid to instruction. Unfortunately the use made of the measurement of oral miscues is not clearly understood by the students and thus its usefulness in their

TABLE 19

SPECIAL QUESTIONS FORM: DPRI FOLLOW-UP STUDY
(N=37)

Item	Content	Freq.	%
1.	Why did you sign up for the course? (choose one answer)		
	a) Needed for certification	2	(5%)
	b) Interesting satellite experiment	2	(5%)
	c) Free credit and books	2	(5%)
	d) Encouraged by principal or supervisor	2	(5%)
	e) Encouraged by fellow teacher or friend	1	(3%)
	f) Really interested in subject matter	26	(70%)
	g) Other	2	(5%)
2.	Select the alternative that best describes your reaction to the DPRI course.		
	a) Learned many useful skills that are not applicable in my present job	2	(5%)
	b) Learned many useful skills that are potentially useful in my job	34	(92%)
	c) I did not learn many useful skills	0	(0%)
	d) No response	1	(3%)
3.	Are you applying many of the skills and techniques presented in the course in your own classroom?		
	a) Yes	30	(81%)
	b) No	5	(14%)
	c) I am not teaching	2	(5%)
5.	Knowing what you know about the quality and procedures of the course would you sign up for it now if you had not already taken it?		
	a) Yes	26	(70%)
	b) No	1	(3%)
	c) Qualified yes	10	(27%)

TABLE 19--CONTINUED

Item	Content	Freq.	%
6a.	Do you feel that you would have enjoyed the course as much as you did if there were no satellite and you watched the programs via regular TV?		
	a) Like both the same	13	(35%)
	b) Like satellite better	18	(49%)
	c) Like regular TV better	5	(14%)
	d) No response	1	(3%)
6b.	Do you feel that you would have enjoyed the course as much as you did if there were no satellite and you listened to a live instructor?		
	a) Like both the same	7	(19%)
	b) Like satellite better	12	(32%)
	c) Like live instructor better	17	(46%)
	d) No response	1	(3%)
7.	Did you feel that the course was an impersonal experience?		
	a) Yes	7	(19%)
	b) No	30	(81%)
	c) No response	0	(0%)
8.	Did you feel that the seminars were really interactive, i.e., did you feel that you had a real input into the seminar and that what you heard and saw was of personal relevance for you?		
	a) Yes	20	(54%)
	b) No	16	(43%)
	c) No response	1	(3%)

teaching is probably minimal. The unit on oral miscue analysis (DPRI unit 5) was found to somewhat disliked and not well understood through other measures of course evaluation (see Technical Report #6, Marion, et al., 1975). However, the general conclusion here is that teachers have a substantial degree of control over curriculum planning in their own classrooms and that they report implementing the teaching procedures and strategies in their classrooms.

Did the participants consider the course experience to be valuable?

Several questions from the Special Questions Form are relevant. Participants (70%) in the respondent group indicated that they signed up for the course out of interest in the subject matter (item 1) and that they (70% yes, 27% qualified yes) would sign up for it again if they had not already taken it (item 5). Participants responding with a qualified yes suggested that (a) the site coordinator should possess more expertise in the subject area, (b) the time for the course (8 weeks) should be longer and/or the course workload lighter, and (c) more individualized learning materials and/or group discussion activities should be used in the course.

The respondents did not feel (item 7) that the course was an impersonal experience (81% to 19%) and felt (item 8) that the seminars were truly interactive (54% to 43%). These points are of particular interest since one of the most important aspects of the delivery of a course by satellite was the opportunity for the course participants at

15 sites scattered throughout the Appalachian region to simultaneously hear, see and interact with reading experts and practitioners on a wide variety of issues. The following positive and negative comments were among those contributed on items 7 and 8 on the Special Questions Form.

> "You listened to 'it' like you listen to a class instructor. If you had a question, it got answered."
>
> "I felt a personal relationship with Dr. Eberwein and the people involved. Dr. John Taylor visited with us and we had a good discussion. I have had graduate courses that were much less personal--maybe I felt that I have had more input in this course."
>
> "I felt that this was my chance to communicate with the University of Kentucky or staff and question or comment on subjects."
>
> "Many of the questions asked and answered were questions I had myself."
>
> "To have our class questions answered immediately and discussed by a panel was very effective."
>
> "The site coordinator helped to make the course personal. However, we could have used better teletype facilities so more questions could be directed to the instructor, and answers returned live."
>
> "Perhaps there should be more seminar sessions."
>
> "Questions should be sent in prior to seminar sessions so that they could be grouped and evaluated as to general interest. More seminars be built in course."
>
> "It would be nice if the instructor visited course site at least once--if students could actually talk with the instructor."
>
> "Many questions asked by our group were not answered at all or else were misinterpreted or else were answered too generally."
>
> "This is a personal reaction. I cannot feel any sense of involvement with inanimate objects such as TV or recordings."

"Many questions seemed elementary and were really answered in the course lectures. Some questions were relevant."

"I felt that many questions were asked but were not answered clearly and directly."

"Not so much input but all of personal relevance to me. It was great to hear known people in the field of reading speak and interact with the instructor. I feel TV is less expensive in getting introduced to these people."

"Although there was a bit of difficulty in getting questions answered, I feel we had an opportunity for input and I also feel the live seminars were most helpful."

"Questions were sent directly from the classroom to the studio and immediate feedback possible. Several participants were interested in similar problems. Practical solutions were offered."

"Due to being able to ask questions via teletype and hearing our questions answered over TV I felt I did have real input into the seminar. The programs certainly were relevant to my on-the-job work."

Interestingly, a plurality of the follow-up respondents (on item 6) preferred the satellite delivered course to "regular" TV courses and they did not show any clear cut preference for a live instructor (item 7).

The respondents were asked on question #9 of the Special Questions Form to describe the role of the site coordinator, to evaluate his helpfulness, and suggest ways his role could be improved. In general the respondents described the site coordinators as pleasant and helpful, but very busy, organizers of the classroom activities and operators of the classroom equipment. This is what was expected of them as the course plans had developed. However, the respondents criticized the site coordinators for their lack of expertise in the reading area. This is a perplexing finding since it was not intended that the site coordinators would be expert in the content areas included in the courses. To have a content

expert at each site would have defeated the basic purpose of the demonstration, viz., to provide high quality instruction to persons geographically dispersed without having to send experts to all these places to serve as course instructors. Alternative recommendations are suggested by this finding. In future projects of this type perhaps (1) more supporting materials of the individual instruction type should be available to back up the site coordinator, (2) more effort should be expended to convince participants that they need not depend on the site coordinator as a source of expert opinion regarding course content, (3) more attention should be given to training the site monitors in the areas of instruction, and (4) persons with some familiarity with course content should be recruited to serve as site coordinators.

The following comments are representative of the views of respondents on the role and effectiveness of the site coordinators.

> "The site coordinator could have been better informed. It seemed she played it by ear and wasn't familiar with the materials. She helped all she could, I felt that it was a lag in upper supervision."
>
> "The coordinator was very helpful. He was very capable."
>
> "He should be more aware of the content of the course."
>
> "Jack of all trades--master of some. Yes, helpful. Some of the demands made on site coordinator as to procedure and direct supervision need to be cut down and streamlined. This summer the SC was overburdened with multitude of tasks: equip, course materials, evaluation, procedures, student questions, etc. Pace was frantic many times."
>
> "The site coordinators worked hard to make the course effective. Their interest in our welfare was outstanding. Their performance could hardly be improved. I felt most grateful for the opportunity to work with them."

"The site coordinator was most helpful. I believe that he will be even more helpful to the next class, having had experience with the program."

"Without our cheerful, helpful coordinator we would have given up in despair. He always tried his best to keep us on track and really was most encouraging with all the forms we had to fill out. No way our SC could be improved."

"The site coordinator was very helpful and tried in all ways possible to have any answer or obtain any materials we might need. He seemed very well versed on what was happening and what to expect."

"Services of SC could have been improved if he had known something about the sujbect matter of the course. A reading teacher would have made a good SC. I saw the coordinator's role as clarifying the material presented and helping us get the answers to our questions, not just operating the TV equipment."

Are the children taught by the course participants better readers today because of the DPRI course?

Certainly this is the question of ultimate importance in a project such as the Appalachian Education Satellite Project. Are the actual consumers of the product affected positively because of the products developed and training provided to the participants involved in this demonstration project? Unfortunately this question can only be answered by implication. A thorough study of classroom performance of children in the classes of AESP participants was not possible given the present funding level. However, to the extent that the diagnostic and prescriptive approach to reading instruction is effective (and there is considerable evidence that it is) there is every reason to expect that the children of Appalachia will benefit from this project given the very positive answers to the first five questions answered in this report.

CONCLUSIONS

The course participants demonstrated gains in performance on tests keyed to course objectives. The mean score on the post-test was 76.8% indicating that, on the average, the participants mastered the course content. Many participants entered the course with considerable expertise in the area of reading instruction and the mean gain in achievement was 14.9%.

Attitudes towards the concepts and principles presented in the course changed in a positive direction from pretest to post-test. This change was small, however. Much greater positive change in attitude was evidenced after the participants had been back on their jobs for six months.

Complex variation in achievement among classroom sites (within triangles) was detected. Classroom sites were heterogeneous in the mean achievement and attitude scores participants made on the pre-and posttests. Complex relationships between entry level and gain in attitude and achievement were found. The characteristics of participants gathered at classroom sites and the quality of the course experience at these sites are hypothesized to contribute to substantial variation in performance across sites.

When participants were asked to rate the learning activities included in the DPRI course in comparison to their typical campus counterparts the DPRI activities were all rated as superior to campus versions.

In a follow-up study the course participants reported overwhelmingly that they were using the strategies and materials presented in the DPRI course in their own classrooms.

The participants considered the overall course experience valuable. They would take it again if they had not already taken it. Over half of the respondents felt that the seminars were truly interactive. Participants did not show any clear cut preference for the presentation of the course by a live instructor. They did not view the course format as impersonal.

There was some confusion on the part of the course participants about the role of the site coordinator. The participants felt uneasy about the lack of expertise of the site coordinators in the area of course content. Attention should be paid to this fact in the future courses.

Since the course participants report using the DPRI strategies and materials in their own classrooms more than they did before and since there is considerable evidence that these strategies should show positive results with school children such as those in Appalachia, it is inferred that the course is having some positive impact on the ultimate client group served by DPRI, elementary

APPENDICES

APPENDIX A

Item A

DPRI Course Content and Objectives

The topics and objectives for each of the twelve programs are:

PROGRAM 1 - DPRI INTRODUCTION

I. Identify reading sub-skills

II. Identify the parts of the diagnostic-prescriptive reading instruction model

III. Realize the importance of early diagnosis and correction of reading problems

PROGRAM 2 - INFORMAL READING TESTS

I. Recognize the advantage of informal reading tests

II. Interpret the results of informal reading tests

III. Identify the sequence of activities involved in constructing an informal reading inventory

The Potter and Rae book, Informal Reading Diagnosis, will be used.

PROGRAM 3 - STANDARDIZED TESTS

I. Identify the procedures necessary for effective administration of standardized tests

II. Interpret the results of standardized tests

III. Recognize the strengths and limitations of standardized tests

The Stanford Achievement Test, Primary I and II and the Murphy-Durrell Reading Readiness Analysis will be used.

PROGRAM 4 - WORD RECOGNITION TESTS

I. Interpret the results of the Wisconsin Design for Reading Skill Development: Word Attack

II. Connect diagnosis to the instructional materials

III. Identify the the sequence of activities involved in going through a complete test-teach-test instructional cycle using the WDRSD: WA

The Wisconsin Design for Reading Skill Development: Word Attack will be used

PROGRAM 5 - MISCUE ANALYSIS

I. Identify and do the sequence of activities involved in administering the reading miscue inventory

II. Categorize reading miscues

III. Compile the results of the reading miscue inventory on coding sheet

The Reading Miscue Inventory will be used

PROGRAM 6 - PRESCRIPTIVE INSTRUCTIONAL SYSTEMS

I. Translate test results into words (descriptors) that can be used to find materials in the retrieval systems

II. Identify the sequence of steps in the process of materials selection

III. Determine which skill descriptors are most appropriate for each student

IV. Recognize the strengths and limitations of different retrieval systems

The Select Ed and the Texas Retrieval Systems will be used

PROGRAM 7 - DPRI MANAGEMENT

I. Identify several patterns of grouping

II. Assess the strengths and limitations of grouping patterns

III. Determine the most appropriate grouping pattern in a given situation

IV. Recognize reasons for using a grouping pattern in a given situation

PROGRAM 8 - READING READINESS AND BEGINNING READING

I. Identify activities used to teach reading readiness and beginning reading

II. List advantages and disadvantages of the activities

III. Determine which activity is most appropriate for a given situation

The Teaching of Reading will serve as a resource for programs 8-11

PROGRAM 9 - WORD RECOGNITION

I. Identify activities used to teach word identification

II. List advantages and disadvantages of the activities

III. Determine which activity is most appropriate for a given situation

PROGRAM 10 - VOCABULARY

I. Identify activities used to teach vocabulary

II. List advantages and disadvantages of the activities

III. Determine which activity is most appropriate for a given situation

PROGRAM 11 - COMPREHENSION

I. Identify question strategies used to teach comprehension

II. Write questions to stimulate student responses in various categories (i.e. knowledge, translation, etc.)

III. Determine the most appropriate question strategy for a given situation

PROGRAM 12 - THE TOTAL READING PROGRAM

I. Identify ways to encourage parental participation in reading programs

II. Determine ways to integrate trade and library books in diagnostic-prescriptive reading instruction

III. Recognize the strengths and limitations of DPRI

IV. Determine ways to implement diagnostic-prescriptive reading instruction in a total reading program

Item B

The Pre-Program Preparation, Laboratory (Ancillary) Activities and Follow-up Activities for each DPRI Program

PROGRAM 1 - DPRI INTRODUCTION

I. Pre-program Preparation

A. None

II. Ancillary Activities

A. Materials needed

1. Example list of problems

B. Activities

1. List problems you have in teaching reading

III. Follow-up Activities

A. None

PROGRAM 2 - INFORMAL READING TESTS

I. Pre-program Preparation for Program 2, Informal Reading Tests

A. Materials needed

1. Informal Reading Diagnosis, Potter and Rae
2. How to Judge Readability of Books, Tape Transcript
3. How to Judge Readability of Books, Student's Workbook
4. "Creating Questions for Informal Reading Inventories"
5. "Question Strategies for Teaching Reading as Reasoning"
6. Informal Reading Inventory, sample by Rizk
7. Interest Inventory
8. The Teaching of Reading, Dallman
9. Pre-program Generalization Sheet

B. Activities

1. Read Informal Reading Diagnosis
2. Read How to Judge Readability of Books, Tape Transcript
3. Read How to Judge Readability of Books, Student's Workbook
4. Read "Creating Questions for Informal Reading Inventories"
5. Read "Question Strategies for Teaching Reading as Reasoning"

6. Read the Informal Reading Inventory, sample by Rizk
7. Read the Interest Inventory
8. Optional: Read Chapters 1 and 2 in The Teaching of Reading
9. Complete Pre-program Generalization Sheet

II. Ancillary Activities

A. Materials needed

1. Informal Reading Diagnosis, Potter and Rae
2. How to Judge Readability of Books, Tape Transcript
3. How to Judge Readability of Books, Student's Workbook
4. "Creating Questions for Informal Reading Inventories"
5. "Question Strategies for Teaching Reading as Reasoning"
6. "Informal Reading Tests"
7. Informal Reading Inventory, sample by Rizk
8. Interest Inventory

B. Activities

1. Construct an Informal Reading Inventory
2. Construct an Informal Test for diagnosing a skill

III. Follow-up Activities

A. Materials needed

1. Informal Reading Inventory
2. IRI Record Sheet
3. Informal Skill Test

B. Activities

1. Administer Formal Reading Inventory to elementary student
2. Administer Informal Skill Test to elementary student

PROGRAM 3 - STANDARDIZED TESTS

I. Pre-program Preparation

A. Materials needed

1. Murphy-Durell Reading Readiness Analysis, (MDRRA) Specimen Set
2. Stanford Achievement Test Level I (SAT-I) Specimen Set
3. Stanford Achievement Test Level II (SAT-II) Specimen Set
4. Pre-program Generalization Sheet

B. Activities

1. Read the Administrator's Manual for MDRRA and the Accompanying student test booklet
2. Read the Administrator's Manual for SAT-I and II, and accompanying student test booklets
3. Read Norms Booklets for SAT-I and II
4. Complete Pre-program Generalization Sheet

II. Ancillary Activities

A. Materials needed

1. Murphy-Durrell Reading Readiness Analysis (MDRRA) Specimen Set
2. Stanford Achievement Test, Reading Tests, (SAT-I) Level I, Specimen Set
3. Stanford Achievement Test, Reading Tests, (SAT-II) Level II, Specimen Set

B. Activities

1. Administer either MDRRA or SATRT to partner
2. Complete score tables for MDRRA and SATRT I and II

III. Follow-up Activities

A. Materials needed

1. MDRRA or SAT-I or SAT-II
2. Read "Measurement Terms For Classroom Teachers"
3. Read "A Glossary of Measurement Terms"

PROGRAM 4 - WORD RECOGNITION TESTS

I. Pre-program Preparation

A. Materials needed

1. Teacher's Planning Guide; Word Attack, Wisconsin Design for Reading Skill Development
2. Test Administrators' Manuals, Levels A, B, C, D; Wisconsin Tests of Reading Skill Development
3. Test Booklets, Levels A, B, C, D; Wisconsin Tests of Reading Skill Development; Word Attack
4. Pre-program Generalization Sheet

B. Activities

1. Read the Teacher's Planning Guide; Word Attack, Wisconsin Design
2. Read the Administrator's Manuals, Levels A, B, C, D; Wisconsin Design; Word Attack
3. Read the Test Booklets, Levels A, B, C, D; Wisconsin Design; Word Attack
4. Complete Pre-program Generalization Sheet

II. Ancillary Activities

A. Materials needed

1. The Wisconsin Design for Reading Skill Development: Word Attack (WDRSD: WA), Specimen Set plus Manual
2. Skill Development Guidelines; Levels A, B, C, D

B. Activities

1. Read Guideline for appropriate level
2. Test-teach-test classroom partner using WDRSD: WA

III. Follow-up Activities

A. Materials needed

1. WDRSD: WA

B. Activities

1. Administer WDRSD: WA to elementary (K-3) student
2. Outline appropriate materials you would use to teach a skill

PROGRAM 5 - MISCUE ANALYSIS

I. Pre-program Preparation

A. Materials needed

1. Reading Miscue Inventory Manual, Goodman and Burke
2. The Teaching of Reading, Dallman
3. Pre-program Generalization Sheet

B. Activities

1. Read the Reading Miscue Inventory Manual
2. Optional: Read Chapters 3, 9A, 9B in The Teaching of Reading
3. Complete Pre-program Generalization Sheet

II. Ancillary Activities

A. Materials needed

1. The Wisconsin Design for Reading Skill Development: Word Attack (WDRSD: WA), Specimen Set plus Manual
2. Skill Development Guidelines; Levels A, B, C, D

B. Activities

1. Read Guideline for appropriate level
2. Test-teach-test classroom partner using WDRSD: WA

III. Follow-up Activities

A. Materials needed

1. WDRSD: WA

B. Activities

1. Administer WDRSD: WA to elementary (K-3) student
2. Outline appropriate materials you would use to teach a skill

PROGRAM 5 - READING MISCUE

I. Pre-program Preparation

A. Materials needed

1. Reading Miscue Inventory Manual, Goodman and Burke
2. The Teaching of Reading, Dallman
3. Pre-program Generalization Sheet

B. 1. Read the Reading Miscue Inventory Manual
2. Optional: Read Chapters 3, 9A, 9B in The Teaching of Reading
3. Complete Pre-program Generalization Sheet

II. Ancillary Activities

A. Materials needed

1. Reading Miscue Inventory Manual
2. Blank Selection Worksheet
3. Guideline Selection Worksheet
4. Retelling Outline
5. Guideline Retelling Outline
6. Blank Coding Sheet

7. Guideline Coding Sheet
8. Synopsis of coding sheet answers
9. Blank reader profile
10. Guideline reader profile

B. Activities

1. Listen to tape and mark selection worksheet
2. Listen to tape and mark retelling outline
3. Complete coding sheet
4. Complete reader profile

III. Follow-up Activities (Optional)

A. Materials needed

1. Selection Worksheet (student constructed)
2. Retelling Outline
3. Coding Sheet
4. Reader Profile

B. Activities

1. Make selection worksheet
2. Complete retelling outline for your selection
3. Administer your RMI to elementary student
4. Code and profile results

PROGRAM 6 - PRESCRIPTIVE INSTRUCTIONAL SYSTEMS

I. Pre-program Preparation

A. Materials needed

1. The Teaching of Reading, Dallman
2. Thesaurus, Select Ed
3. Thesaurus, Texas Retrieval
4. Pre-program Generalization Sheet

B. Activities

1. Read Chapter 17 in The Teaching of Reading
2. Read Thesaurus, Select Ed
3. Read Thesaurus, Texas Retrieval
4. Complete Pre-program Generalization Sheet

II. Ancillary Activities

A. Materials needed

1. Description of PMRS
2. Six case studies
3. Thesaurus-Select Ed
4. Thesaurus-Texas Retrieval System
5. Sample Synthesis Form for Wayne
6. Sample Retrieval Request Form for Wayne
7. Synthesis Forms (2)
8. Retrieval Request Forms (2)

B. Activities

1. Read Description of PMRS
2. Translate test results from two case studies into descriptors and that can be used to find materials in the retrieval systems
3. Compare your retrieval selections with those provided

III. Follow-up Activities

A. Materials needed

1. Test results for your student
2. Thesaurus-Select Ed
3. Thesaurus-Texas Retrieval System
4. Retrieval Request Forms

B. Activities

1. Translate test results for your elementary student into descriptors that can be used to find materials in the retrieval systems
2. Make out a request form like Wayne's and give to site coordinator to send to the RCC

PROGRAM 7 - DPRI MANAGEMENT

I. Pre-program Preparation

A. Materials needed

1. The Teaching of Reading, Dallman
2. Pre-program Generalization Sheet
3. Example independent activity

B. Activities

1. Read Chapter 13 in The Teaching of Reading
2. Complete Pre-program Generalization Sheet
3. Prepare an independent activity to share with class

II. Ancillary Activities

A. Materials needed

1. Your handout of an independent activity

B. Activities

1. Discuss one of the five decision making questions with your partner
2. Discuss with the class the advantages and disadvantages of the various grouping patterns
3. Discuss with the class independent activities which can be used while you are working with a group and then exchange handouts

III. Follow-up Activities

A. Materials needed

1. Description of Sinclairville reading program
2. Example "My Grouping Pattern Problem"

B. Activities

1. Read the description of the Sinclairville reading program
2. Briefly describe the class you had this past school year and show how you grouped them for instruction. Then make suggestions on how you would change your grouping patterns if you had the same group next year.

PROGRAM 8 - READINESS AND BEGINNING INSTRUCTION

I. Pre-program Preparation

A. Materials needed

1. The Teaching of Reading, Dallman
2. Pre-program Generalization Sheet
3. Example activity for readiness and beginning reading

B. Activities

1. Read Chapters 4A and 4B in The Teaching of Reading
2. Complete Pre-program Generalization Sheet
3. Prepare handout of technique used for teaching a readiness and beginning reading activity

II. Ancillary Activities

A. Materials needed

1. Your handout of activity for teaching a readiness or beginning reading skill

B. Activities

1. The five class members for Program 8 report on their activities
2. Class members exchange their handouts

III. Follow-up Activities

A. Materials needed

1. Suggested activities by classmates
2. Example summary of readiness activity

B. Activities

1. Read the suggested activities
2. Do one of the readiness activities with your K-3 student and write brief summary of the strengths and weaknesses of the skill activity.

PROGRAM 9 - WORD RECOGNITION STRATEGIES

I. Pre-program Preparation

A. Materials needed

1. The Teaching of Reading, Dallman
2. Pre-program Generalization Sheet
3. Example activity for word recognition skill

B. Activities

1. Read Chapters 5A, 5B, and 15 in The Teaching of Reading
2. Complete Pre-program Generalization Sheet
3. Prepare handout of technique used for teaching a word recognition skill

II. Ancillary Activities

A. Materials needed

1. Your handout of activity for teaching a word recognition skill

B. Activities

1. Discuss in class the advantages and disadvantages of these five approaches to word recognition: phonics, gaming, patterning, Distar, and Fernald
2. The five class members for Program 9 report on their activities
3. Class members exchange handouts

III. Follow-up Activities

A. Materials needed

1. Suggested activities by classmates
2. Suggested games by Montgomery
3. Fernald Approach summary
4. Example summary of word recognition activity

B. Activities

1. Read the suggested activities
2. Read the suggested games by Montgomery
3. Read the Fernald Approach summary
4. Do one of the word recognition activities with your K-3 student and write brief summary-reaction of the skill activity

PROGRAM 10 - VOCABULARY

I. Pre-program Preparation

A. Materials needed

1. "Activities for Increasing Hearing and Speaking Vocabularies," Wise
2. "Stimulate Reading With a Dictionary," Miller
3. "Vocabulary Development in The Primary Grades," Bougere
4. Pre-program Generalization Sheet
5. Example activity for vocabulary skill

B. Activities

1. Read "Activities for Increasing Hearing and Speaking Vocabularies"
2. Read "Stimulate Reading With a Dictionary"
3. Read "Vocabulary Development in The Primary Grades"
4. Complete Pre-program Generalization Sheet
5. Prepare handout of techniques used for teaching vocabulary

II. Ancillary Activities

A. Materials needed

1. Your handout of an activity for teaching vocabulary

B. Activities

1. The five class members for Program 10 report on their activities
2. Class members exchange their handouts

III. Follow-up Activities

A. Materials needed

1. Suggested activities by classmates
2. Example summary of vocabulary activity

B. Activities

1. Read the suggested activities
2. Do one of the vocabulary activities with your K-3 student and write brief summary

PROGRAM 11 - COMPREHENSION

I. Pre-program Preparation

A. Materials needed

1. "Question Strategies for Teaching Reading As Reasoning" Eberwein (See Program 2, Ancillary Materials)
2. The Teaching of Reading, Dallman
3. Pre-program Generalization Sheet
4. Example activity for comprehension skill

B. Activities

1. Reread "Question Strategies for Teaching Reading As Reasoning". Choose short passage and develop comprehension questions.
2. Read Chapters 6A and 6B in The Teaching of Reading
3. Complete Pre-program Generalization Sheet
4. Prepare handout of technique used for teaching a comprehension skill

II. Ancillary Activities

A. Materials needed

1. Your comprehension passage and questions
2. Your handout of an activity for teaching comprehension

B. Activities

1. Read partner's comprehension passage and questions and write brief critique of the questions
2. The five class members for Program report on their activity
3. Class members exchange their handouts

III. Follow-up Activities

A. Materials needed

1. Suggested activities by classmates
2. Summary of activity for comprehension

B. Activities

1. Read the suggested activities
2. Do one of the comprehension activities with your K-3 student and write a brief summary-reaction of a skill activity

PROGRAM 12 - THE TOTAL READING PROGRAM

I. Pre-program Preparation

A. Materials needed

1. The Teaching of Reading, Dallman
2. "Parent Assists to the School Reading Program"
3. Pre-program Generalization Sheet

B. Activities

1. Read Chapters 16 and 17 in The Teaching of Reading
2. Read "Parent Assists to the School Reading Program"
3. Complete Pre-program Generalization Sheet

II. Ancillary Activities

A. Materials needed

1. How I Would Change My Reading Program, example

B. Activities

1. Write a short report describing your reading program last year, and alternatives for teaching reading this year.

III. Follow-up Activities

A. None

APPENDIX B

Appalachian Education Satellite Project
Resource Coordinating Center
Evaluation Component
306 Frazee Hall, University of Kentucky
Lexington, Kentucky 40506

SPECIAL QUESTIONS FORM

This form asks you several very important questions about the course you took last summer. These items provide information about a number of questions we have been asked by persons and agencies interested in the satellite project.

You are one of only 50 course participants selected to answer this form, so please return it to us. You are to respond anonymously, but please indicate which course you took, your job, and the grade level of the students you work with.

Course _____

Job _____

Grade Level _____

1. Why did you sign up for the course? Choose the one <u>most applicable</u> answer.

___ (a) Needed it for certification
___ (b) Interesting satellite experiment
___ (c) Free credit and books
___ (d) Encouraged by principal or supervisor
___ (e) Encouraged by fellow teacher or friend
___ (f) Really interested in subject matter of course
___ (g) Other (please specify)

_____

_____

2. Select the alternative that best describes your reaction to the course you took.

___ (a) I learned many useful skills that are not applicable in my present job.
___ (b) I learned many useful skills that are potentially useful in my job.
___ (c) I did not learn many useful skills.

3. Are you applying many of the skills and techniques presented in the course in your own classroom?

___ (a) Yes
___ (b) No
___ (c) I am not teaching this year.

4. If you answered yes to question 3 will you please briefly explain (a) what techniques you are using; (b) how effective you feel they are; (c) the reaction of your students to the techniques you have employed, and (d) the extent to which you feel your students have benefited from the new techniques (mention any relevant results on standardized tests).

(a) _____

_____

_____

_____

(b) _____

_____

(c) _____

_____

(d) _____

_____

5. Knowing what you know about the quality and procedures of the course would you sign up for it now if you had not already taken it?

___ (a) Yes
___ (b) No
___ (c) Qualified yes, I would sign up for it if the following changes were made:

_____

_____

6. Do you feel that you would have enjoyed the course as much as you did if there were no satellite used and ....

(a) you watched the programs via regular TV

___ like both the same ___ like satellite better
___ like regular TV better

(b) you listened to a live instructor

___ like both the same ___ like satellite better
___ like live instructor better

7. Did you feel that the course was an impersonal experience?

___ Yes ___ No

Explain some ways you feel that a course delivered via satellite could be made more personal.

_____

_____

_____

_____

8. Did you feel that the seminars were really interactive, i.e., did you feel that you had a real input into the seminar and that what you heard and saw was of personal relevance for you. ___ Yes ___ No
Please explain your reaction.

_____

_____

_____

9. Describe the role of the site coordinator as it appeard to you. Was the site coordinator helpful? How could the services of the site coordinator be improved?

_____

_____

_____

_____

APPENDIX C

TEACHING PRACTICES INVENTORY: DPRI
(N_p = 280 Precourse and N_F = 179 Follow-up)

Item	Pre-Course	Follow-up
1. Organization of Instruction		
a) Read same materials at same time	10 (4%)	7 (4%)
b) Read same materials at own rates	73 (26%)	36 (20%)
c) Select own reading materials	25 (9%)	8 (4%)
d) Assigned materials based on weaknesses	138 (49%)	126 (70%)
e) No response	34 (12%)	2 (1%)
2. Did you use homogeneous grouping (by reading level)?		
a) Yes	227 (81%)	138 (77%)
b) No	41 (15%)	37 (21%)
c) No Response	12 (4%)	4 (2%)
3. Did you use homogeneous grouping (by skill weaknesses)?		
a) Yes	208 (74%)	155 (87%)
b) No	60 (21%)	24 (13%)
c) No Response	12 (4%)	0 (0%)
4. Are students assigned to teachers by reading level?		
a) Yes	87 (31%)	68 (38%)
b) No	174 (62%)	101 (56%)
c) No Response	19 (7%)	10 (6%)
5. Individual planning of student reading programs.		
a) Yes	92 (33%)	86 (48%)
b) No	173 (62%)	90 (50%)
c) No Response	15 (5%)	3 (2%)
6. Approach to reading instruction (K-3)		
a) Phonics	72 (26%)	27 (15%)
b) Patterning	18 (6%)	3 (2%)
c) Language experience	46 (16%)	7 (4%)
d) Basal reader	90 (32%)	47 (26%)
e) Prescriptive instruction	43 (15%)	95 (53%)
f) No Response	11 (4%)	0 (0%)

Item	Pre-Course	Follow-up
7. Supplementary Reading Materials		
a) Basal Series		
Yes	160 (57%)	142 (79%)
No	120 (43%)	32 (18%)
No Response	0 (0%)	5 (3%)
b) Library Books		
Yes	219 (78%)	168 (94%)
No	61 (22%)	10 (5%)
No Response	0 (0%)	1 (1%)
c) Linguistic Kits and Materials		
Yes	117 (42%)	131 (73%)
No	163 (58%)	42 (24%)
No Response	0 (0%)	6 (3%)
d) Workbooks		
Yes	198 (71%)	153 (86%)
No	82 (29%)	20 (11%)
No Response	0 (0%)	6 (3%)
e) Audio-Visual Materials		
Yes	207 (74%)	166 (93%)
No	73 (26%)	12 (7%)
No Response	0 (0%)	1 (1%)
f) Other Sources		
Yes	29 (10%)	154 (86%)
No	251 (90%)	13 (7%)
No Response	0 (0%)	12 (7%)
8. Analyze oral miscues?		
a) Yes	121 (43%)	68 (38%)
b) No	138 (49%)	99 (55%)
c) No Response	21 (8%)	12 (7%)

Item	Pre-Course	Follow-up
9. Purpose of use of oral reading miscue analysis.		
a) Determine reading levels, interests, and word-recognition skills	49 (18%)	26 (15%)
b) Determine relative reading skill	8 (3%)	10 (6%)
c) Detect deficiencies in specific reading skills	59 (21%)	29 (16%)
d) Discover students' reading strategies	13 (5%)	25 (14%)
e) No Response	151 (54%)	89 (50%)
10. Did you use standardized reading tests?		
a) Yes	192 (69%)	126 (70%)
b) No	73 (26%)	46 (26%)
c) No Response	15 (5%)	7 (4%)
11. Purpose for which standardized reading tests used.		
a) Determine reading levels, interests, and word-recognition skills	93 (33%)	54 (30%)
b) Determine relative reading ability	36 (13%)	35 (20%)
c) Determine deficiencies in specific reading skills	64 (23%)	51 (29%)
d) Discover child's reading strategy	3 (1%)	4 (2%)
e) No Response	84 (30%)	35 (20%)
12. Did you use informal reading tests?		
a) Yes	186 (66%)	146 (82%)
b) No	80 (29%)	24 (13%)
c) No Response	14 (5%)	9 (5%)
13. Purpose for which you used informal reading tests?		
a) Determine reading level, interests, and word-recognition skills	96 (34%)	101 (56%)
b) Determine relative reading ability	4 (1%)	5 (3%)
c) Detect deficiencies in specific reading skills	63 (23%)	38 (21%)
d) Discover students' reading strategies	10 (4%)	7 (4%)
e) No Response	107 (38%)	28 (16%)

Item	Pre-Course	Follow-up
14. Did you use reading skills tests?		
a) Yes	171 (61%)	147 (82%)
b) No	84 (30%)	22 (12%)
c) No Response	25 (9%)	10 (6%)
15. Purpose for which you used reading skills tests? tests?		
a) Determine reading level, interests, and word-recognition skills	47 (17%)	20 (11%)
b) Determine relative reading ability	7 (2%)	0 (0%)
c) Detect deficiencies in specific skills	112 (40%)	126 (70%)
d) Discover students' reading strategies	7 (2%)	4 (2%)
e) No Response	107 (38%)	29 (16%)
16. Did you find standardized tests useful for your teaching procedure?		
a) Yes	136 (49%)	91 (51%)
b) No	91 (33%)	59 (33%)
c) No Response	53 (19%)	29 (16%)
17. Have you taught in? (Select as many as apply).		
a) Team teaching situations	98 (35%)	73 (41%)
b) Open concept classrooms	49 (18%)	46 (26%)
c) Traditional classrooms	236 (84%)	153 (86%)
d) Resource Center	25 (9%)	36 (20%)
e) Individual instruction situations	141 (50%)	134 (75%)
f) Homogeneous classrooms	76 (27%)	94 (52%)
g) Other	25 (9%)	64 (36%)
18. Classroom noise level during work periods.		
a) Completely quiet	11 (4%)	1 (1 %)
b) Whisper noise caused by students working together	138 (49%)	96 (54%)
c) Fairly high level caused by enthusiasm and group involvement	95 (34%)	80 (45%)
d) Fairly high level, since many students not interested in learning	8 (3%)	2 (1%)
e) No Response	28 (10%)	0 (0%)

Item	Pre-Course	Follow-up
19. Parents involved in school programs?		
a) Yes	115 (41%)	68 (38%)
b) No	160 (57%)	105 (59%)
c) No Response	5 (2%)	6 (3%)
20. Students in your school, on the whole		
a) Interested and enthusiastic about school	129 (46%)	101 (56%)
b) Mildly interested	108 (39%)	67 (37%)
c) Did not appear interested, but did their school work	15 (5%)	7 (4%)
d) Seemed to be only passing time of day	4 (1%)	1 (1%)
e) Disliked school	1 (0%)	1 (1%)
f) No Response	23 (8%)	2 (1%)
21. Did you carefully define what you expected from your students and write down those expectations in the form of behavioral objectives?		
a) Yes	124 (44%)	86 (48%)
b) No	143 (51%)	86 (48%)
c) No Response	13 (5%)	7 (4%)
22. Teaching strategies you used most (check as many as apply)		
a) Teaching small groups	243 (87%)	165 (92%)
b) Teaching large groups	115 (41%)	92 (51%)
c) Teaching an individual	175 (63%)	152 (85%)
d) Using lesson plan developed by someone else	53 (19%)	35 (20%)
e) Developing your own lesson	230 (82%)	170 (95%)
23. Encourage students to help each other?		
a) Yes	262 (94%)	173 (97%)
b) No	12 (4%)	5 (3%)
c) No Response	6 (2%)	1 (1%)
24. Students tutor other students?		
a) Yes	219 (78%)	141 (79%)
b) No	54 (19%)	32 (18%)
c) No Response	7 (2%)	6 (3%)

Item	Pre-Course	Follow-up
25. Technique in working with small groups		
a) Lecturing	20 (7%)	3 (2%)
b) Serving as resource person	73 (26%)	43 (24%)
c) Both a) and b)	162 (58%)	107 (60%)
d) Other techniques	5 (2%)	23 (13%)
e) No Response	20 (7%)	3 (2%)
26. What was the majority of your lessons based on?		
a) A state prepared lesson plan	6 (2%)	1 (1%)
b) A system-wide lesson plan	10 (4%)	7 (4%)
c) A commercially developed lesson plan	40 (14%)	37 (21%)
d) A school-wide lesson plan	9 (3%)	2 (1%)
e) A lesson plan developed by yourself	187 (67%)	128 (72%)
f) No Response	28 (10%)	4 (2%)
27. Did you have a budget for classroom supplies and materials?		
a) Yes	200 (71%)	131 (73%)
b) No	73 (26%)	44 (25%)
c) No Response	7 (3%)	4 (2%)
28. Did you order supplies and materials for your class?		
a) Yes	241 (86%)	159 (89%)
b) No	35 (12%)	18 (10%)
c) No Response	4 (1%)	2 (1%)
29. Does your school have satisfactory supplies, equipment, and materials?		
a) Yes	170 (61%)	110 (62%)
b) No	101 (36%)	68 (38%)
c) No Response	9 (3%)	1 (1%)
30. Did your classroom equipment include? (check all that apply)		
a) Television	135 (48%)	85 (48%)
b) Tape recorder	208 (74%)	136 (76%)
c) Phonograph	254 (91%)	163 (91%)
d) Overhead projector	179 (64%)	116 (65%)

Item		Pre-Course	Follow-up
31.	In which of the following areas do you feel that your school needs additional staff? (check all that apply)		
	a) Administrative	15 (5%)	21 (12%)
	b) Supervisory	31 (11%)	43 (24%)
	c) Counseling and guidance	118 (42%)	103 (58%)
	d) Classroom teachers	98 (35%)	88 (49%)
	e) Clerical teacher's aids	192 (69%)	132 (74%)
	f) Other	28 (10%)	
	g) Medical		80 (45%)
32.	About how many books does your school have in its library?		
	a) Less than 1000	44 (16%)	15 (8%)
	b) 1001 - 2000	54 (19%)	38 (21%)
	c) 2001 - 3000	63 (22%)	37 (21%)
	d) 3001 - 5000	53 (19%)	43 (24%)
	e) over 5000	36 (13%)	23 (13%)
	f) No Response	30 (11%)	23 (13%)
33.	Did the guidance counselor supply you with materials which helped strengthen your instructional program?		
	a) Yes	31 (11%)	18 (10%)
	b) No	193 (69%)	133 (74%)
	c) No Response	56 (20%)	28 (16%)
34.	Did the State Department of Instruction have available materials you found useful?		
	a) Yes	91 (33%)	56 (31%)
	b) No	150 (54%)	96 (54%)
	c) No Response	39 (14%)	27 (15%)
35.	Are you familiar with the ERIC michrofiche system?		
	a) Yes	54 (19%)	92 (51%)
	b) No	219 (78%)	81 (45%)
	c) No Response	7 (3%)	6 (2%)

Item	Pre-Course	Follow-up
36. Do you know the location of an ERIC microfiche reader in your vicinity?		
a) Yes	50 (18%)	62 (35%)
b) No	221 (79%)	109 (61%)
c) No Response	9 (3%)	8 (4%)
37. Have you had any input into the curriculum which you teach?		
a) Yes	175 (62%)	128 (72%)
b) No	89 (32%)	44 (25%)
c) No Response	16 (6%)	7 (4%)
38. Did your principal or supervisors encourage you to experiment with different instructional styles or techniques?		
a) Yes	216 (77%)	126 (70%)
b) No	56 (20%)	48 (27%)
c) No Response	8 (3%)	5 (3%)
39. Did students have any input into your curriculum development?		
a) Yes	141 (50%)	81 (45%)
b) No	121 (43%)	88 (49%)
c) No Response	18 (6%)	10 (6%)
40. Did you participate on curriculum development committees?		
a) Yes	120 (43%)	75 (42%)
b) No	151 (54%)	91 (51%)
c) No Response	9 (3%)	13 (7%)
41. When faced with an instructional problem, what did you do? (check all that apply)		
a) Sought the help of guidance counselor	35 (12%)	31 (17%)
b) Sought the help of a fellow teacher	229 (82%)	159 (89%)
c) Sought the help of the principal	166 (59%)	126 (70%)
d) Sought the help of the area supervisor	93 (33%)	67 (37%)
e) Solved the problem by yourself	169 (60%)	145 (81%)

Item	Pre-Course	Follow-up
42. Did you see a need for a revision of your curriculum in your school system, but find you were not able to help in its revision?		
a) Yes	105 (38%)	112 (63%)
b) No	144 (51%)	56 (31%)
c) No Response	31 (11%)	11 (6%)
43. Did you see a need for a revision of your curriculum in your school system, and find you were able to help in its revision?		
a) Yes	99 (35%)	49 (27%)
b) No	135 (48%)	107 (60%)
c) No Response	46 (16%)	23 (13%)
44. Did you see a need for a curriculum revision in your school system?		
a) Yes	192 (69%)	65 (36%)
b) No	62 (22%)	87 (49%)
c) No Response	26 (9%)	27 (15%)
45. Did you feel that you had sufficient time during the day to prepare your lessons?		
a) Yes	64 (23%)	48 (27%)
b) No	210 (75%)	125 (70%)
c) No Response	6 (2%)	6 (3%)
46. Through which of the following activities did you share your teaching ideas with your fellow teachers? (check all that apply)		
a) Informal discussions	263 (94%)	166 (93%)
b) As a leader of an inservice teacher training program	30 (11%)	35 (20%)
c) As a participant in an inservice teacher training program	127 (45%)	100 (56%)
d) As a coordinator of a curriculum development project	11 (4%)	19 (11%)
e) As a participant in a curriculum development project	63 (22%)	63 (35%)
f) Other	20 (7%)	71 (40%)

Item		Pre-Course	Follow-up
47.	If you checked one or more activities in item 46, check below the area or areas towards which those activities were aimed. (check all that apply)		
	a) Career Education	41 (15%)	29 (16%)
	b) Reading	222 (79%)	163 (91%)
	c) Mathematics	123 (44%)	85 (48%)
	d) Language Skills	135 (48%)	111 (62%)
	e) Social Studies	58 (21%)	46 (26%)
	f) Other	21 (8%)	46 (26%)
	g) Natural Sciences		32 (18%)
	h) Industrial Arts / Home Economics		7 (4%)
48.	Were there factors that inhibited you from carrying out some project or curriculum revision? (check all that apply)		
	a) Lack of self-confidence	26 (9%)	21 (12%)
	b) Lack of knowledge or skills	76 (27%)	34 (19%)
	c) Lack of administrative support	47 (17%)	41 (23%)
	d) Lack of money	113 (40%)	95 (53%)
	e) Lack of resources	94 (34%)	76 (43%)
	f) Lack of fellow teacher support	48 (17%)	29 (16%)
	g) Lack of time	163 (58%)	94 (52%)
	h) Other	11 (4%)	60 (34%)
49.	Were there factors that encouraged you to initiate and carry through a project or curriculum revision? (check all that apply)		
	a) Confidence in self	87 (31%)	101 (56%)
	b) Sufficient knowledge and skills	62 (22%)	96 (54%)
	c) Adequate administrative support	89 (32%)	68 (38%)
	d) Adequate money	25 (9%)	29 (16%)
	e) Adequate resources	53 (19%)	39 (22%)
	f) Adequate fellow teacher support	91 (32%)	86 (48%)
	g) Sufficient time	22 (8%)	28 (16%)
	h) Other	7 (2%)	45 (25%)

Item	Pre-Course	Follow-up
50. Was your school departmentalized? (follow-up only)		
a) Yes		38 (21%)
b) No		75 (42%)
c) No Response		66 (37%)
51. Did you plan reading activities on (check as many as apply)? (follow-up only)		
a) An individual level (your classroom only)		100 (56%)
b) A intra-departmental level		49 (27%)
c) A school-wide level		30 (17%)
52. Was there cooperation within your department in curriculum development or modification activities? (follow-up only)		
a) Yes		78 (44%)
b) No		34 (19%)
c) No Response		67 (37%)
53. Did your department coordinator encourage curriculum development or modification activities? (follow-up only)		
a) Yes		49 (27%)
b) No		41 (23%)
c) No Response		89 (50%)

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